

The

CONSTRUCTOR



Volume XXXII

JUNE 1950

Number 6

BUILDINGS

HIGHWAYS

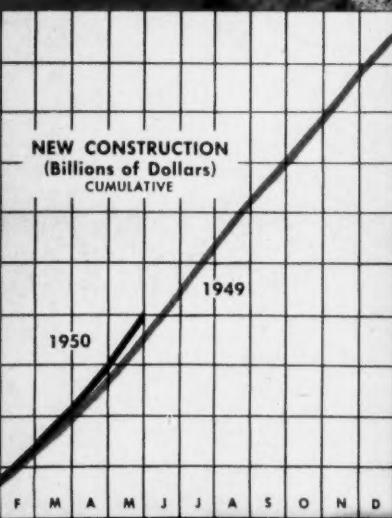
AIRPORTS

NATIONAL DEFENSE

PUBLIC WORKS



NEW CONSTRUCTION
(Billions of Dollars)
CUMULATIVE



British Report on U. S. Building—Page 46

How to Obtain AEC Contracts—Page 42

Extra Thousands of Trouble-Free Payload Miles with **EATON** *2-Speed Truck* **AXLES**



*More Than a Million
Eaton 2-Speed Axles
in Trucks Today.*

Even at slowest truck speeds—where gear tooth loads are often highest—Eaton's exclusive Forced-Flow Lubrication System provides positive protection for vital axle parts. With less than one revolution of the axle drive gear, oil begins to flow to all moving axle parts. As speed increases, flow is accelerated to meet the demand. This means reduced friction and wear, longer axle life and lower upkeep cost. Eaton 2-Speed Axles are available for most trucks of the 1½-ton class and larger. Ask your truck dealer for a road demonstration.

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PRODUCTS: SODIUM COOLED, POPPET, AND FREE VALVES • TAPPETS • HYDRAULIC VALVE LIFTERS • VALVE SEAT INSERTS • JET ENGINE PARTS • ROTOR PUMPS • MOTOR TRUCK AXLES • PERMANENT MOLD GRAY IRON CASTINGS • HEATER-DEFROSTER UNITS • SNAP RINGS • SPRINGTITES • SPRING WASHERS • COLD DRAWN STEEL • STAMPINGS • LEAF AND COIL SPRINGS • DYNAMIC DRIVES, BRAKES, DYNAMOMETERS

ALL-WEATHER
Finest for flotation,
rolling big loads faster.

HARD ROCK LUG
Super-tough champ for
all types of rock work.

SURE-GRIP
Tops for drive-wheel trac-
tion on graders and pavers.



3 best ways to move the earth



Each of these job-proved Goodyear tires has a specially engineered tread and body to handle best a particular type of construction hauling need—each, in its proper type of service, cuts tire cost per mile,

steps up schedules, provides longer-lasting performance. Proof is the fact: *More tons are hauled on Goodyear tires than on any other kind.* Remember, always BUY and SPECIFY Goodyear—it pays!

GOOD YEAR

All-Weather, Sure-Grip—T.M.'s The Goodyear Tire & Rubber Company, Akron, Ohio



High-Efficiency 'Incor' Performance

Speeds Erection of Ravenswood Houses—West Section



NEW YORK CITY HOUSING AUTHORITY
RAVENSWOOD HOUSES (West Section) Long Island City

Architect: THE FIRM OF FREDERICK G. FROST JR., New York

Ready-Mix 'Incor' Concrete
COLONIAL SAND & STONE CO., INC., New York

Contractor, Concrete Frame:
CAYE CONSTRUCTION CO., INC., Brooklyn, N. Y.

● One of New York City Housing Authority's largest projects is 2166-apartment Ravenswood Houses, Long Island City. Housing Authority projects are quality-constructed in every last detail—and they move ahead at driving speed. Because at today's costs, time saved is money saved—and how!

All last winter, frame concreting on the fourteen 6-story units in Ravenswood's west section clicked ahead on precise schedule—for CAYE CONSTRUCTION CO., INC. switched to 'Incor' 24-Hour Cement. In cold weather, column forms were stripped in 24 hours, slabs in 48 hours. That kept the job right on schedule—and saved a complete set of forms. *Big money, that, at today's form costs!*

Came Spring—and things were running so smoothly that they kept on using 'Incor'. For high-efficiency 'Incor' performance knows no season. Straight around the calendar, 'Incor'* promotes the smooth-running, time-saving efficiency on which today's close-margin profits depend. Send for illustrated booklet, 'Cutting Concrete Costs'—write Lone Star Cement Corporation, 100 Park Ave., New York 17.

*Reg. U. S. Pat. Off.



LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON
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LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS. 15 MODERN MILLS. 27,500,000 BARRELS ANNUAL CAPACITY

The CONSTRUCTOR

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COVER

The aerial view on the cover shows a completed section of the new Jayhawk Trail, modern gateway into California's Death Valley National Monument. The Argus Range at left hemis the limitless Panamint Valley. An estimated 75,000 tourists will use this new route annually, which was constructed with great difficulties over a two-year period by the Swellow Engineering Company of Van Nuys; Arthur Johnson Construction Company of Laguna; Dieco, Inc., and Dix Syl Construction Company, both of Bakersfield. The Swellow organization encountered unusually difficult rock formations in its 4.7-mile contract. The photograph was taken by George H. Sturtevant, editor of the *Trona Argonaut*, Trona, California.

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The fleet that won a land battle

It took a fleet of 8 "Caterpillar" DW10s to lick a long-haul earthmoving problem for Parish Brothers, Benicia, California.

Bill Madsen, job superintendent on this contractor's "Black Point Cutoff" job north of San Francisco, summed it up this way: "Our DW10s performed so well that our original equipment specifications were changed to make it a DW10 show all the way! Down time is remarkably low, and we're ahead of schedule."

The 404,000 cu. yd. "Black Point Cutoff" poser—with a one-way haul distance of 3.1 miles—was licked like this: No. 80 "Caterpillar" Scrapers were pusher-loaded with 12½ pay yards in 0.9 minute or less. . . . The DW10s handled spreading on the fly in 10 seconds . . . hauling speeds averaged 20 mph. over mostly level to favorable grade . . . complete unit cycle made every 16 minutes . . . production averaged 46 pay yds. an hour per unit.

The DW10 excels at low-cost, high-speed earthmoving. All—"Caterpillar" built and serviced, its 115-hp. "Cat" Diesel Engine holds hauling speeds up to 24.5 mph. DW10 bonus features include aluminum pistons with cast iron band for top compression ring, "Hi-Electro" hardened final drive gears, hydraulically controlled seat, booster steering for finger-tip control, and easy-to-operate constant-mesh transmission.

Ask your "Caterpillar" dealer to show you what the DW10 can do for you.

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS

LOOK UNDER THE HIDE

*Quality doesn't show on the outside—
it shows up in performance*

"Caterpillar" cylinder heads are made of copper-molybdenum iron. Built with rugged reinforcing members, the head design gives large air ports for maximum engine power. Ample spacing between valves and wide water passages prevent steam pockets—offer utmost resistance to cracking—give long head life. Water passages are designed to guide the water next to valve seats and precombustion chambers to keep head temperatures uniform. *Look under the hide for quality.*



CATERPILLAR

REG. U. S. PAT. OFF.

DIESEL ENGINES • TRACTORS • MOTOR GRADERS • EARTHMOVING EQUIPMENT

Construction activity continued high during May with \$1,941 million of new construction put in place to bring the total for the first five months of 1950 to \$8,074 million, more than 20 per cent ahead of the similar period last year, the Departments of Commerce and Labor reported.

Construction records were broken for the second consecutive month with April's building and heavy engineering contract awards amounting to more than \$1,350 million; topping by more than \$50 million the preceding month's all-time high, the F. W. Dodge Corporation reported. Prior to last March the former record was \$1,190 million, reached in June of wartime 1942. The April figure was four per cent above March, and 60 per cent above April 1949.

Public works of nearly all kinds, and particularly those financed by federal grants-in-aid, are taking a heavy pounding in Washington from groups championing government economy measures advocated by the Hoover Commission. (Page 23)

A Columbia Valley Authority was advocated by President Truman in speaking at another dedication of Grand Coulee Dam, built by contract. Previously the President had been less specific in advocating additional valley authorities by suggesting that advantage be taken of the experiences of the Tennessee Valley Authority. (Page 24)

Highway construction during 1949 was less than one-half the replacement rate necessary, Commissioner Thomas H. MacDonald of the Bureau of Public Roads told Congress. The Senate Public Works Committee was holding public hearings on federal aid highway legislation. The House passed such legislation by a 246 to 34 vote on May 19. (Page 25)

The probability that federal public works appropriations would not become available at the start of the 1951 fiscal year on July 1 became more evident early in June. The House took 21 days of debate to pass the \$28 billion general appropriation bill. The Senate Appropriations Committee was not certain of reporting the bill much before July 1. (Page 26)

Costs of highway construction are in line with prices of other services and commodities; intense competition is prevailing and is expected to prevail in highway construction; contractors have the capacity to carry out an expanding volume of highway construction with maximum efficiency and economy, Managing Director H. E. Foreman of The Associated General Contractors of America told the Senate Public Works Committee in hearings. (Page 25)

The problems of handling specialty contracts for building construction are problems of harmonious industry relationships for which both general contractors and specialty contractors have responsibility for fair dealings. They are not problems which are solved by subjecting the construction industry to further federal or state legislation and regulation. This highlights A.G.C. action on the subject. (Page 29)

The 1950 national airport plan, released last month by the Civil Aeronautics Administration, lists 5,093 locations where airport construction or development projects are considered necessary during the next three years. Total cost is estimated at \$928 million, to be evenly divided between the federal government and local sponsors. (Page 38)

Bidding and awarding practices of the Atomic Energy Commission for construction contracts are described by William K. Maher, Chief, Construction-Engineering Branch. (Page 42)

Speed and low cost of American construction methods were particularly impressive to the British Building Industry Productivity Team which visited parts of this country last summer. Coordination of the work by the general contractor, and a spirit of collaboration on the job inspired by the driving force of the general contractor were factors discussed by the team in its comprehensive report published last month. (Page 46)

Good housekeeping on the job, the first law of accident prevention, is described with excerpts from the A.G.C. *Manual of Accident Preven-*

tion In Construction, and from a five-minute talk from the series, "Safety Talks for Construction and Maintenance Foremen," prepared by the Construction Section, National Safety Council. (Page 49)

Office of Chief Counsel of the National Labor Relations Board, held by Robert M. Denham, was retained when the Senate on May 11, by a 53 to 30 vote, four more than needed, rejected the President's reorganization plan which would have abolished the office. (Page 54)

Martin W. Watson of Topeka, Kansas, an A.G.C. Past President, was installed as a director of the Chamber of Commerce of the United States at the annual meeting concluding May 3. He will serve as a director for the Construction and Civic Development Department. A.G.C. President Walter L. Conue, of Detroit, has been appointed a member of the department committee.

The Corps of Engineers, U. S. Army, observes its 175th anniversary on June 16. On that date in 1775 the Continental Congress acted upon the urgent request of General George Washington to appoint one Chief Engineer at \$60 a month, and two assistants at \$20 a month.

Several members of the A.G.C. Accident Prevention Committee attended and took part in the second President's Conference on Industrial Safety held June 5 to 7 in Washington, D. C.

Legalized "basing point" pricing systems were approved by the Senate June 2 by a vote of 43 to 27 after a week of debate and a year-long battle by opponents led by Senator Paul H. Douglas (D., Ill.), who argued that the measure would weaken anti-trust laws. The bill, which now goes to White House, authorizes absorption of freight charges and uniform prices in specified areas by manufacturers, but provides there must be no collusion among companies, and pricing systems must not tend to foster monopolies. There was speculation in the capital that the President might veto the bill, which action would have been more probable had the Senate vote been close.



FASTER PAVING... LOWER COSTS with GM DIESEL POWER

ON 22 miles of U. S. Route 81 in Kansas, these two GM Diesel-powered Koehring 34-E Twin-batch pavers were used by Koss Construction Company of Des Moines. They poured 2800 feet of 22-foot pavement in one 10-hour run. Slab was uniform 9-inch thickness, mesh reinforced.

In another period of 4 consecutive days, their crews paved 2 full miles. They completed the entire 285,000-sq.-yd., 22-mile paving project in 12 calendar weeks.

Records show these crews consistently poured 1000 batches per 10-hour day—a tribute to the men, the equipment and the power.

Because General Motors Diesels are 2-cycle engines, they deliver power at every piston down-stroke. So the power flow is smoother and acceleration is faster under load. The engines are more

Kansas Lowest in Concrete Pavement Construction Costs

A recent study released by the Bureau of Public Roads reveals wide differences in the cost of building concrete pavement.

Kansas, Texas and Michigan costs were lowest. Because of the difference in thickness of pavements in various parts of the nation, the comparison of construction costs was made on the basis of a square yard one inch in thickness.

The cost varied from 36.1c per sq. yd. 1 in. in thickness in Kansas to \$1.076 in Nevada. Michigan's cost was 36.8c. The national average cost is 42.1c. In Illinois the cost is 48c; Ohio 44.7; Pennsylvania 51c; Indiana 45.3c; Wisconsin 43.6c; and Kentucky 56.2c.

Reprint from—
ROADS AND STREETS
February, 1950

compact, easier and more economical to maintain. No matter what kind of work you do, if you want sturdy, dependable, money-making power, it will pay you to specify General Motors Series 71 Diesel engines for new equipment or for repowering old.

DETROIT DIESEL ENGINE DIVISION

SINGLE ENGINES ... Up to 275 H. P. DETROIT 28, MICHIGAN MULTIPLE UNITS ... Up to 800 H. P.
GENERAL MOTORS

DIESEL BRAWN WITHOUT THE BULK



A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for May stands at Index Number 346, according to the A.G.C. Index. The cost figure for May 1949 was 340. The 1913 average equals 100.

WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 468 for May. One year ago the average stood at 453. The average of prices paid by contractors for basic construction materials for May stands at Index

Number 266. The average a year ago stood at 265. The 1913 average, again, equals 100.

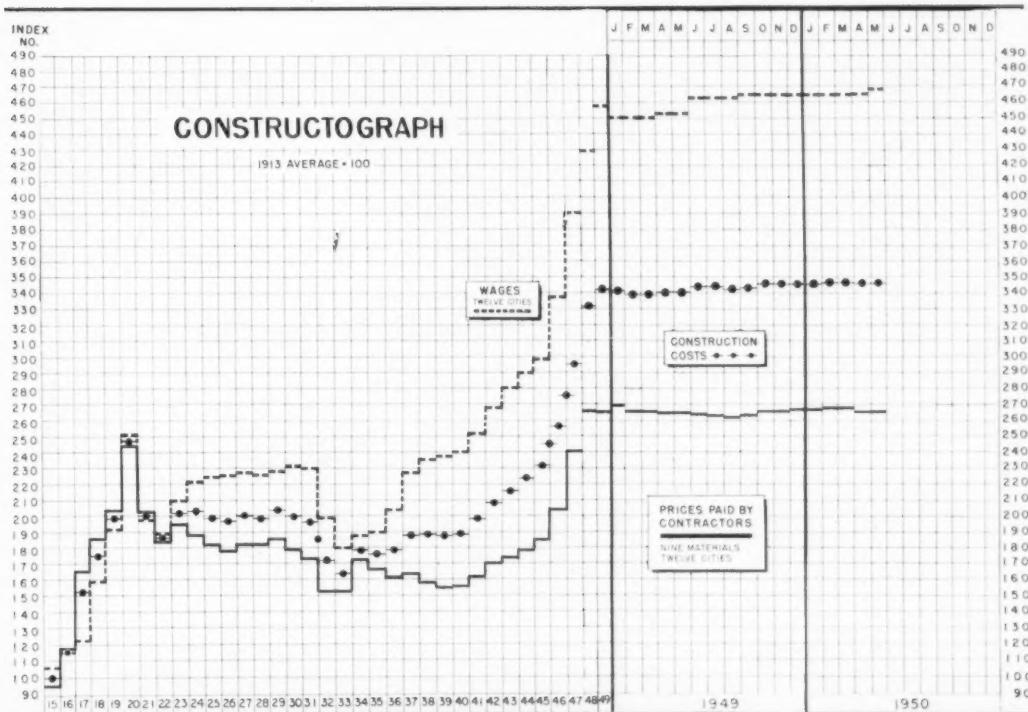
CONTRACT AWARDS IN 37 STATES

The volume of contracts awarded during April (Index Number 295, based on 1936-1938) is an increase of 11 points from March, and an increase of 107 points above April 1949.

REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 20 weeks of 1950 totaled 13,201,676 cars. For the same period in 1949, loadings amounted to 14,348,804 cars. This represents a decrease of 8 per cent.

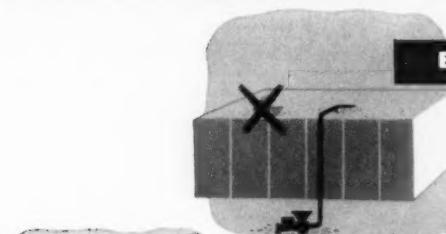
● Wage, Material Price and Construction Cost Trends



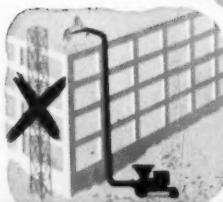
the economy of "CONCRETE BY PIPE LINE" is

a process of elimination!

BUGGY RUNS ELIMINATED



With Rex Pumpcrete, you reduce labor costs since concrete is delivered through a pipe line right to the point of placement. No "buggying" needed.



PREPARATORY COSTS ELIMINATED

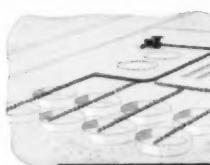
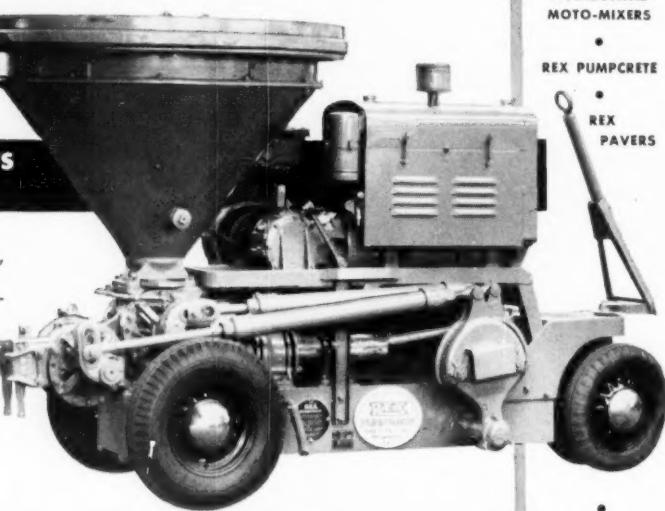
Road building and maintenance . . . trellising and scaffolding . . . towers, etc. . . all these costly preparatory items are eliminated through Pumpcrete and pipe line flexibility.



"DEAD" TIME ELIMINATED BY STEADY PUMPING

Because you get steady pumping instead of the usual occasional large pours, you get the fastest, most advantageous forming and steel setting sequence . . . costly "dead" time is materially cut.

Rex Pumpcrete and pipe line flexibility are your economical answer to the high cost of materials and labor. With them you can substantially reduce costs . . . improve concrete quality through elimination of segregation . . . bid with assurance.



FLEXIBILITY ELIMINATES NON-PRODUCTIVE MOVING TIME

No need to waste time and money moving mixing equipment from spot to spot. Pumpcrete can be spotted in the one most advantageous job location and all concrete mixed at or delivered to it!

THE
REX QUALITY
CONSTRUCTION
MACHINERY LINE...

- REX HI-DISCHARGE MOTO-MIXERS
- REX HORIZONTAL MOTO-MIXERS
- REX PUMPCRETE
- REX PAVERS

- REX "EASY FLOW" PUMPS
- REX 4-INCH DIA-PHRAGM PUMPS
- REX TILTER MIXERS

- REX MORTAR AND PLASTER MIXERS

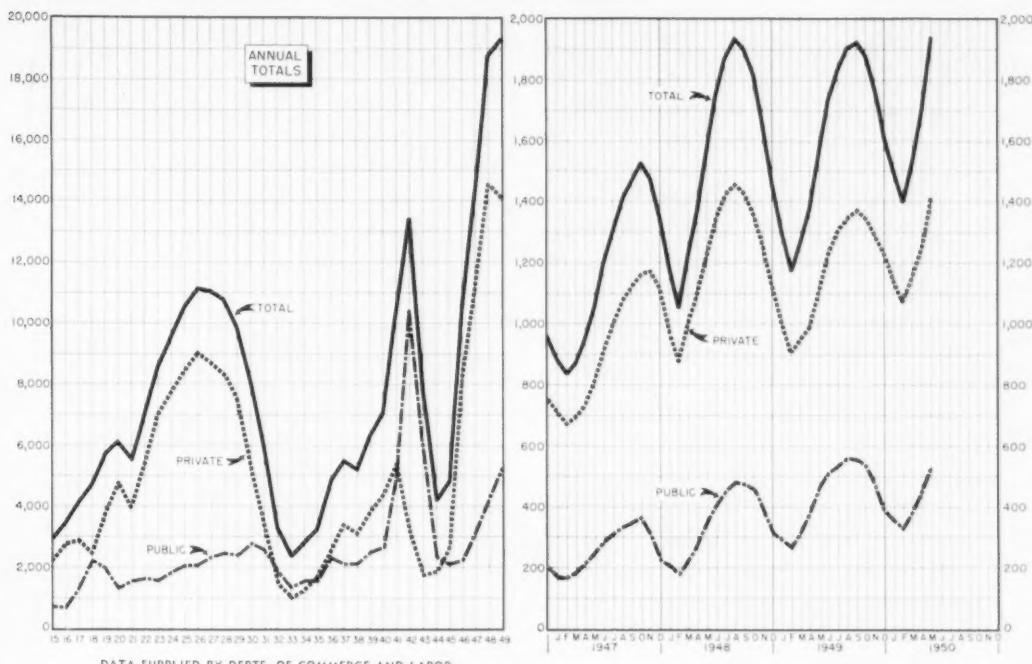
- REX BUILDING MIXERS

For more information on the Pumpcrete or any other product in the Rex line, write to Chain Belt Company, 1625 West Bruce Street, Milwaukee 4, Wisconsin.

CONSTRUCTION MACHINERY

CHAIN BELT
REX
COMPANY

● New Construction Activity (MILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR

The new construction activity revised estimates which The Constructor forecast last month were not available in time for translation to the Constructographs on this page and page 11. The new estimates, which are under preparation by the Departments of Commerce and Labor, are expected to be released late this month. Therefore, the charts on construction volume in this section are based on the old benchmark, which does not include additional information that has become available. The data given at right in tabular form on the old basis are joint estimates of the Departments of Commerce and Labor.

New Construction Estimates (Millions of Dollars)

TYPE OF CONSTRUCTION	1950		
	May	1950	1949
Total new construction	1,941	8,074	6,678
Total private	1,110	6,026	4,955
Residential (excl. farm)	825	3,435	2,270
Nonresidential building	271	1,256	1,326
Industrial	74	352	481
Warehouses, office & loft bldgs.	24	119	127
Stores, restaurants and garages	66	271	271
Other nonresidential building	107	514	447
Farm construction	39	111	110
Public utility	275	1,224	1,249
Total public	531	2,048	1,723
Residential	25	118	55
Nonresidential building	165	750	615
Educational	82	392	322
Hospital and institutional	46	216	156
Other nonresidential building	37	150	137
Military and naval	10	48	40
Highway	175	490	448
Sewer and water	53	239	217
Misc. public service enterprises	10	42	37
Conservation and development	71	274	247
All other public	22	79	64

AND WITH A NORTHWEST
"it's a Pipe"

22 NORTHWESTS
for
LOCK JOINT
PIPE COMPANY

TAKE all the pipe the Lock Joint Pipe Company has made and reduce it to 1 inch diameter and it comes to over 800 million feet — more than six times around the world. That is a lot of pipe no matter where you lay it.

All down through the years the Lock Joint Pipe Company has used Northwest Pullshovels and while there are no figures to prove it, it's a safe bet that most of that pipe was laid by Northwests.

Northwest Crawlers stand up in long mileages. Northwest Simplicity of Design makes upkeep low. Northwest equipment has proved its ability to deliver high output — and back of this is the fact that one out of every three Northwests sold is a repeat order in the hands of a responsible contractor — people like Lock Joint Pipe Company. There is no better testimonial.

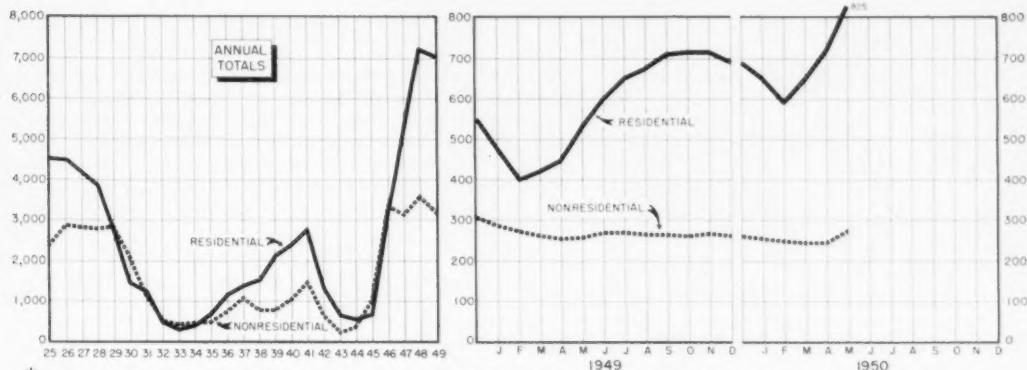
Make your plans to have a Northwest now. Ask for complete details. Especially check into the Northwest Truck Crane and get the whole story on Crane and Carrier.

NORTHWEST
ENGINEERING CO.
1502-8 Field Bldg.
135 South LaSalle Street
Chicago 3, Illinois

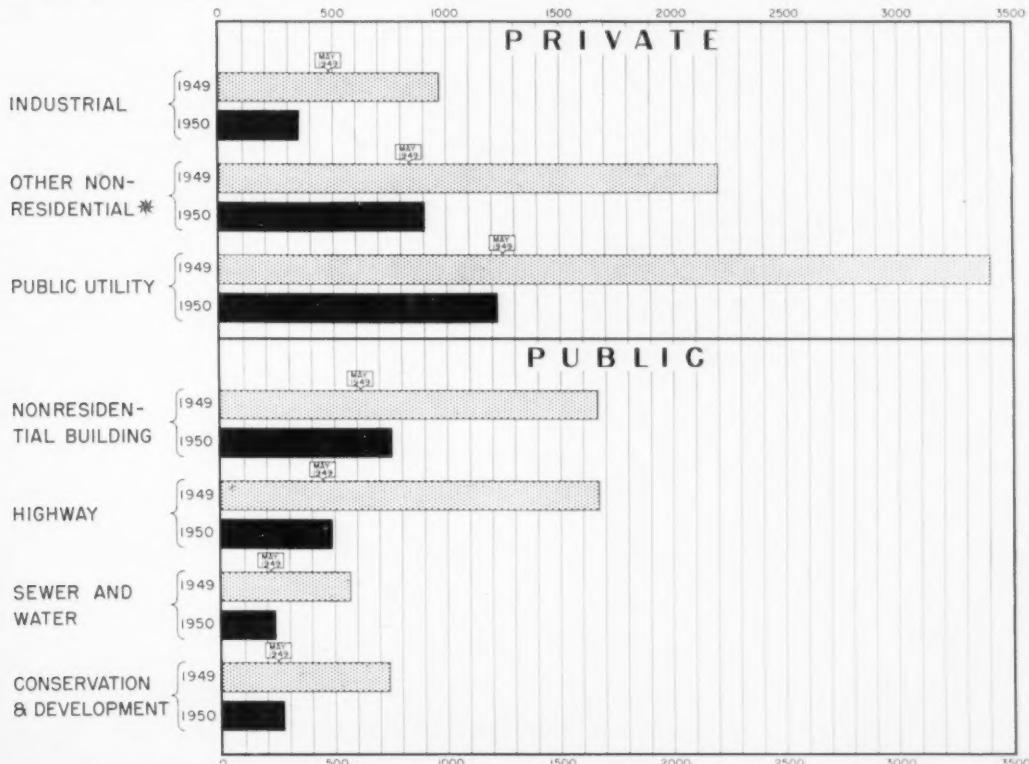


NORTHWEST

CRAWLER and TRUCK MOUNTED SHOVELS • CRANES • DRAGLINES • PULLSHOVELS

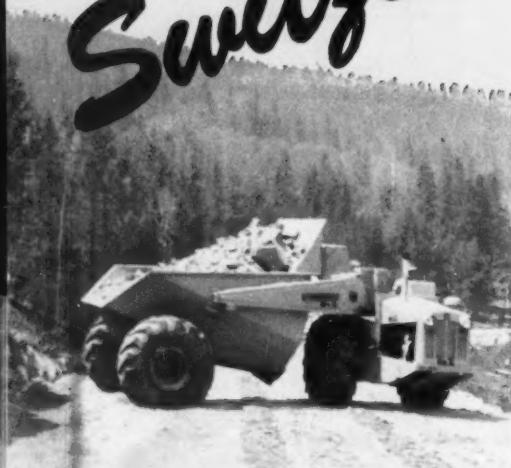
NEW CONSTRUCTION ACTIVITY**● Private Residential and Nonresidential Building* (MILLIONS OF DOLLARS)**

* Residential excludes farm; Nonresidential includes industrial, commercial, institutional, and social and recreational building, but excludes public utility building.

● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1949 and 1950 VOLUME THROUGH MAY

* Includes commercial, institutional, and social and recreational building.

*Horner
and
Switzer*



On this mountainous highway job, Tournarocker's quick, easy maneuvering cut important seconds off every haul cycle. Ability of the 2-wheel prime mover to make 90° turns gives the big Tournarocker a short turning radius of 12'6" . . . and it really paid off here.

move 220,000 with 3 rear-dump

220,000 yards of mountain-top granite . . . altitudes up to 8300 feet . . . narrow, precipitous haul trails . . . and continual heavy rains, almost every other day. Those were the conditions which Contractors Horner & Switzer tackled on relocation of U. S. Hwy. 280, from Granby Dam to Monarch Lake, Colorado. They drove in a fleet of 3 LeTourneau rear-dump Tournarockers, teamed them up with a 2½-yard rock shovel, and got the following big-yardage results:

Averaged 10½ bank yds. per load

Contractor's crew estimated the rock wagons carried 10½ bank yards of granite each trip. They were loaded in an average of 7 passes from the 2½-yard dipper. In extreme hard digging, it often took the shovel 4½ minutes to load each rig. Haul cycles were so fast that on most haul distances only 2 of the Tournarockers were needed to keep the shovel busy. For example:

1240' haul, dump, return in 4¼ min.

Hauls on the job ranged from a few feet up to a half-mile. Checked on a 1240-foot, one-way haul, including a 170-foot stretch of 13% adverse grade, each Tournarocker took only 4¼ minutes to travel, dump, and return to the shovel.

These fast cycles on the mountain-side trails were possible because Tournarocker's 4-wheel air brakes let operators haul

Dumping took only 8 seconds, with Tournarocker's powerful, fast-acting, electric body hoist. Vertical dump position and the smooth, clean, streamlined body cleared loads instantly. Power is on the Tournarocker's front wheels.

LETOURNEAU **TOURNAROCKERS**

HIGH SPEED on RUBBER PLUS TRACTION ADVANTAGES of a CRAWLER

Yds. MOUNTAIN GRANITE TOURNAROCKERS

heavy loads at maximum speeds with complete safety. 4,108 square inches of braking surface . . . more on one wheel than most haulers have on all four wheels . . . gave sure, safe stops every time. Short, 90° turns, and positive electric steer by push-button control, permitted quick turning and spotting on the dump and at the shovel.

8-second dump

Dump was fast . . . simple, electric body hoist tilted the wide, streamlined body to vertical position . . . cleared the 10½-yard loads in just 8 seconds, total hoist and dump time. Because of their front-wheel drive, and holding action of powerful 4-wheel brakes, the Tournarockers safely backed up to edge of bank, and dumped loads over the bank eliminating rehandling . . . saving dozer clean-up.

All these Tournarocker advantages for big-payload, fast-cycle hauling gave Horner & Switzer the lowest-cost answer on their tough mountain highway job. What's more, they drove their big 16-ton capacity rigs to the job from Denver . . . made the 120-mile trip, via the Berthoud Pass, in less than a day.

If you haven't checked the new, low hauling costs possible on your work with these revolutionary rear-dump Tournarockers, better get all the facts from your LeTourneau Distributor right away. Write or call him NOW!

Big 11'2" x 7'10" top opening, plus low body position, gave the shovel operator an easy-loading target. These big-capacity LeTourneau rock wagons maneuvered in close . . . hauled an average load of 10½ bank yds. of granite.



Operating on narrow ledge at the shovel, Horner & Switzer's Tournarockers turned and spotted into loading position in an average of 24 seconds. Giant, 4-wheel air brakes and positive electric power steer gave operators complete confidence and safety.



Tournarocker™ Trademark

Tournapull, Tournadozer™ Trademark Reg. U. S. Pat. Off.

Send Today for complete facts to R. G. LeTOURNEAU, Inc., Peoria, Ill.

We're interested in . . . specifications price job analysis on the 16-ton, rear-dump, E16 Tournarocker

NAME.....

TITLE.....

COMPANY.....

TYPE OF BUSINESS.....

STREET.....

CITY.....

STATE.....

Would also like information on 13.5-yard C Tournapull

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185 h.p., rubber-tired Super C Tournadozer



MACK MODEL LR ...15-TON DUMP TRUCK

Keeps the Shovels HUSTLING



...Payloads Moving *FAST*

- Feature by feature—in every part—Mack Model LR is engineered to keep earth, rock, coal and ore moving away from the shovel—fast.

Regardless of weather or terrain, Model LR maintains positive traction through slippery mud or over uneven ground because of Mack's exclusive Power Divider differential. Power steering, air-assisted clutch, offset driver's position, proper weight distribution—all contribute to easy handling...assure nimble maneuverability...fast, profitable hauling.

Study the standout features Model LR brings to your job. Compare them, point by point, with any other make of truck for off-highway dump work. You'll find they all add up to give you increased profits through faster time cycles and greater output at lower cost.

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Mack Trucks, Inc., Empire State Building, New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and distributors in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Ltd.



AMPLE HORSEPOWER: Standard engine, 196 h.p.; other engines from 150 h.p. to 306 h.p. Available in either gasoline, diesel or butane types.

MACK POWER DIVIDER: Assures good going through mud and over uneven ground by effectively transferring power to the wheel having the best traction.

MACK DUPLEX TRANSMISSION: Eight forward speeds provide a ratio range to meet the requirements of every off-highway hauling condition.

AIR-ASSISTED DOUBLE PLATE CLUTCH: Makes possible almost effortless operation; reduces driver fatigue to a minimum.

MACK PLANIDRIVE REAR AXLE: Three-pinion planetary final reduction gears located outboard of each wheel, provide large reduction without excessive size of carrier, differential or axle shafts.

POWER STEERING: Hydraulic power steering is shock-proof, positive and fast—gives easy, effortless control.

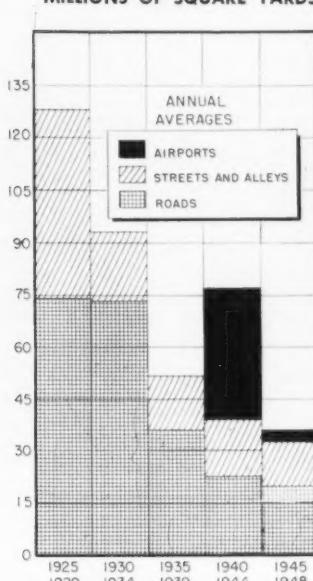
MASTERFUL AIR BRAKES: Air-actuated brakes have nearly 1000 square inches of braking area properly distributed, front and rear, to assure fast, positive and effective braking on all four wheels.

RUBBER SUSPENSION: Mack rubber Shock Insulators on front springs and rear axle support-arms eliminate twisting strains, absorb vibration, require no lubrication or adjustment, and last indefinitely.



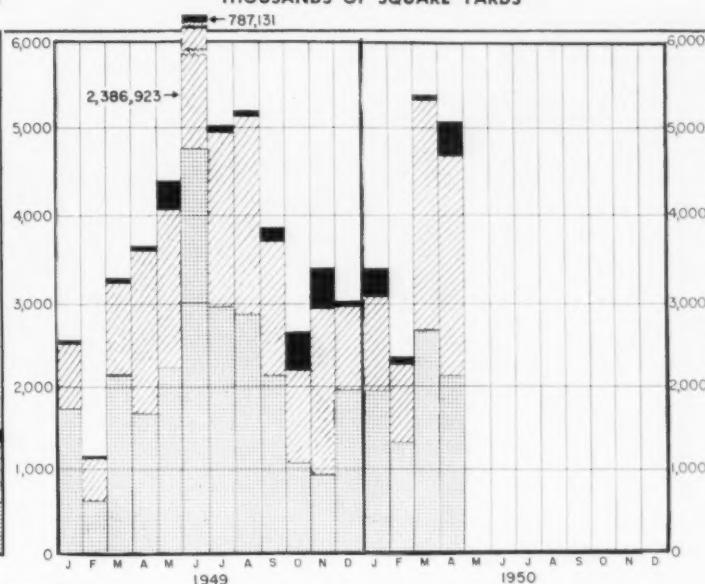
● Concrete Surface Pavement Awards

MILLIONS OF SQUARE YARDS



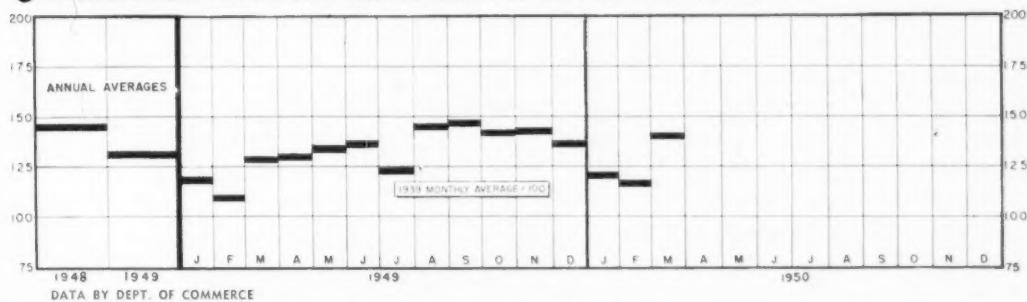
DATA SUPPLIED BY PORTLAND CEMENT ASSOCIATION

THOUSANDS OF SQUARE YARDS



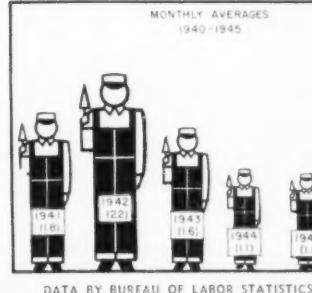
DATA SUPPLIED BY PORTLAND CEMENT ASSOCIATION

● Materials Index: COMPOSITE PRODUCTION INDEX OF 20 MATERIALS

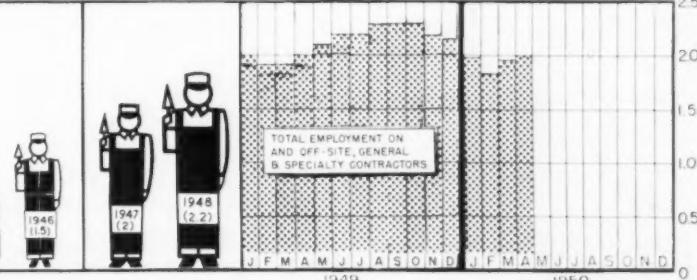


DATA BY DEPT. OF COMMERCE

● Contract Construction Employment (MILLIONS)



DATA BY BUREAU OF LABOR STATISTICS

TOTAL EMPLOYMENT ON
AND OFF-SITE, GENERAL
B. SPECIALTY CONTRACTORS

**YOU CAN'T
DO THIS
with any other
single unit!**



PLAN your job for the MultiFoote with the HighLift Boom. Built in three capacities from single to double drum it brings you high output, gives you better control of your concrete delivery and will place concrete 23 ft. up with a standard boom (greater heights with longer booms).

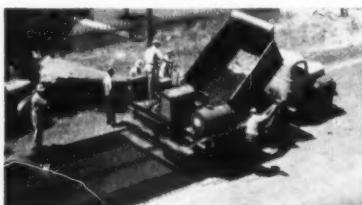
Crawler traction permits easy travel over the ordinary rough ground conditions of a construction job and will not dig itself in as do wheels. Bucket controls are at the bucket where they should be to handle exact placement to hoppers or spouts. MultiFoote Simplicity makes maintenance easy and keeps costs low. Check this column at the right and see what you eliminate for cost cutting and note what the MultiFoote and the HighLift Boom make possible. More information on how it will help you if you will ask us.

THE FOOTE COMPANY, INC.

Subsidiary of Blaw-Knox Co.
1914 State Street Nunda, New York

MULTIFOOTE PAVER

FOR EVERY PLACE CONCRETE MUST BE POURED



What the Direct Pour will do!

- Places concrete 23 ft. up with a standard 35 ft. boom. Greater heights with longer booms.
- Loads open truck bodies.
- Feeds Pumpcrete.
- Feeds hoppers or concrete buggies.
- Will travel along and pour direct to forms.
- Travel and pour series of basement foundations and / or wall.
- Travel between forms and pour footings.
- Pour walls in low headroom where crane can't work.
- Pour floor or highway.

What the Direct Pour Saves!

- Eliminates crane and concrete bucket.
- Eliminates mixer.
- Eliminates chuting tower or other elevating equipment.
- Reduces ramps and false work required.
- Reduces ground crew.
- Reduces concrete haul for buggy men.
- Reduces time always lost in transferring concrete from one piece of equipment to another.



DO YOU LAY BLACKTOP?

The Adnun does a better job particularly with cold mixes. Its sturdy structure eliminates rebuilding periodically and its flexibility permits laying any type of aggregate. Ask for complete details.

ADNUN BLACK TOP PAVER

TRADE MARK REGISTERED

For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

This table indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from February 15, 1948 to April 15, 1950.

They are presented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

The Bureau of Labor Statistics surveys 10 key cities every month and 24 other large cities quarterly. Prices are obtained on food, fuel, apparel, house furnishings and miscellaneous goods and services. Rental information is obtained quarterly only for all cities. The computations are based on the indexes for the years 1935-39, which are taken as the average of 100 points.

	1948			1949			1950		
	FEB. 15	MAR. 15	APR. 15	FEB. 15	MAR. 15	APR. 15	FEB. 15	MAR. 15	APR. 15
Average.....	167.5	166.9	169.3	169.0	169.5	169.7	166.5	167.0	167.3
Birmingham, Ala.....	172.8	172.0	172.7	171.7	171.8	171.6	166.4	168.4	167.7
Mobile, Ala.....	169.9	169.9	171.1	171.1	171.1	171.2	166.1	165.9	166.9
Los Angeles, Calif.....	168.1	167.4	169.3	171.3	171.0	171.2	172.3	172.3	172.3
San Francisco, Calif.....	171.4	171.4	174.6	174.6	174.6	174.6	172.0	172.9	172.9
Denver, Colo.....	168.5	168.5	169.9	169.9	169.9	169.9	165.7	165.7	165.7
Washington, D. C.....	163.2	163.2	164.1	164.1	164.1	164.1	163.6	163.8	163.8
Jacksonville, Fla.....	172.8	172.8	174.3	174.3	174.3	174.3	174.8	174.8	174.8
Atlanta, Ga.....	169.2	169.2	170.1	170.1	170.1	170.1	168.3	168.3	168.3
Savannah, Ga.....	172.2	172.2	177.6	177.6	177.6	177.6	170.9	170.9	170.9
Chicago, Ill.....	168.8	169.0	172.1	172.9	174.5	175.0	172.0	172.9	172.9
Indianapolis, Ind.....	169.0	169.0	172.5	170.7	170.8	171.1	168.1	168.3	169.5
New Orleans, La.....	177.1	177.1	173.2	173.2	173.2	173.2	170.6	170.6	170.6
Portland, Maine.....	162.7	162.7	165.0	165.0	165.0	165.0	163.7	163.7	163.7
Baltimore, Md.....	170.9	170.9	173.9	173.9	173.9	173.9	170.1	170.1	170.1
Boston, Mass.....	161.3	160.8	163.6	161.4	162.5	162.4	160.7	162.0	162.3
Detroit, Mich.....	169.0	168.7	171.8	170.7	170.8	171.1	168.1	168.3	169.5
Minneapolis, Minn.....	167.7	167.7	169.3	169.3	169.3	169.3	167.1	167.1	167.1
Kansas City, Mo.....	163.3	163.3	163.3	163.3	163.3	163.3	161.1	161.1	161.1
St. Louis, Mo.....	167.8	167.8	169.0	169.0	169.0	169.0	167.4	167.4	167.4
Manchester, N. H.....	172.0	172.0	170.6	170.6	170.6	170.6	167.1	167.1	167.1
Buffalo, N. Y.....	167.2	167.2	168.3	168.3	168.3	168.3	166.3	166.3	166.3
New York, N. Y.....	166.4	164.3	167.0	166.8	167.4	168.1	163.7	164.0	164.5
Cincinnati, Ohio.....	170.1	169.3	170.8	169.7	170.7	170.7	167.2	167.9	167.3
Cleveland, Ohio.....	171.6	171.6	172.5	172.5	172.5	172.5	168.7	168.7	168.7
Portland, Ore.....	175.8	175.8	177.6	177.6	177.6	177.6	174.8	174.8	174.8
Philadelphia, Pa.....	166.6	165.5	169.3	168.5	169.0	169.0	165.1	166.0	166.0
Pittsburgh, Pa.....	170.1	170.1	171.9	172.1	172.7	173.0	169.5	169.5	170.1
Scranton, Pa.....	166.5	166.5	166.8	166.8	166.8	166.8	163.7	163.7	163.7
Memphis, Tenn.....	172.4	172.4	173.3	173.3	173.3	173.3	169.4	169.4	169.4
Houston, Texas.....	170.4	170.0	171.4	170.2	170.2	171.0	172.0	172.9	171.9
Norfolk, Va.....	170.1	170.1	170.6	170.6	170.6	170.6	167.1	167.1	167.1
Richmond, Va.....	163.4	163.4	164.2	164.2	164.2	164.2	161.9	161.9	161.9
Seattle, Wash.....	170.7	170.7	174.3	174.3	174.3	174.3	171.6	171.6	171.6
Milwaukee, Wis.....	166.9	166.9	168.7	168.7	168.7	168.7	167.6	167.6	167.6

Euclid

Service - YOUR KEY



TO LOWER COSTS!

Engineered and built for heavy off-the-highway hauling, "Eucs" are first choice for open pit mining and quarry operations, and for construction and industrial work. Proved on hundreds of the toughest jobs, Euclid low cost performance is backed by a world wide distributor organization with competent personnel and stocks of genuine Euclid parts.

Euclid owners know they can depend on prompt and efficient service whenever needed to keep down-time and maintenance costs at a minimum. Your Euclid distributor will be glad to show you how dependable performance and fast on-the-job service can help to lower your hauling costs and keep your work moving on schedule.

First in field performance—first in service . . . these are Euclid plus values that add up to customer satisfaction.

The EUCLID ROAD MACHINERY Co., Cleveland 17, Ohio



EUCLIDS



Move the Earth

Sidelights for Contractors

By John C. Hayes, Legal Adviser

Taxes

Partnerships.—A retiring partner is taxable on his share of the partnership profits, as ordinary income, up to the time of his withdrawal from the partnership. The fact that a partner sold his partnership interest to the other partner for a price less than his capital investment plus his share of the undistributed income did not relieve him of tax liability on his share of such income, the Tax Court concluded. Sale of the taxpayer's interest in the partnership resulted in a long-term capital loss, for which only a limited deduction was allowable.

Deductible Repairs.—While waterproofing has been held in some instances to be a capital expenditure, the Tax Court in a recent case held waterproofing to have been merely a repair, where it was required to keep the property in the same usefulness as formerly and it did not materially increase the life or value of the property. The taxpayer, a meat packer, added a cement lining to the floor and walls of his basement to protect such storage space from oil seepage from an oil refinery recently opened nearby.

Delinquency Penalty.—Imposition of the delinquency penalty of a 25 per cent addition to the tax is mandatory, the Tax Court states, where a taxpayer during 1938 made a number of gifts to trusts but failed to file a gift tax return. The taxpayer had thought the gifts were excluded from gift tax liability by the annual exclusion (now \$3,000) allowed from gifts to each beneficiary, but such exclusion did not apply since the gifts were only of future rather than present interests.

Joint Venture.—A test similar to that governing the recognition of partnerships for tax purposes has been followed by the Tax Court on recognition of joint ventures, that is, whether the parties really and truly intended to conduct the enterprise as a joint venture. The Court refused to recognize a claimed joint venture, and to allow the income of the members to be computed on the accrual basis thereof,

where an agreement was made between an engineering partnership and another engineer, with sole control and responsibility for certain defense housing in the partnership, all business was transacted in its name, it contributed all capital and paid all expenses, and the other engineer received a fixed fee and a share of the profits only on work on which he performed engineering services.

Tax Compromise.—A corporation which took over its predecessor's assets and liabilities, including a tax liability to the United States, and which after prolonged negotiations was able to compromise such tax liability, realized taxable income in the amount of the difference between that owed and that paid, according to the Tax Court's decision. While the corporation was financially unsound, there was no intention on the Government's part of making any gift to it in accepting the tax settlement.

Interest.—The Tax Court allowed a taxpayer, who was one of several beneficiaries under a will, to deduct as interest, payments he made yearly to certain other beneficiaries under a compromise settlement of a suit brought against him. The Court stated that interest on indebtedness, as deductible under the Internal Revenue Code, means compensation for the use or forbearance of money, which test was here met by the fact that the payments were made in consideration of deferral of payment of principal amounts due in settlement of the action for breach of fiduciary duty. The Court felt that it should not apply too strictly the general rule that there must be a debt owing by the taxpayer.

Family Corporation.—In directing acquittal of administrators charged with income and estate tax evasion, a District Court concluded that the Government had not made out a case merely by showing there were shares of stock in the defendant's safe deposit box in other persons' names but endorsed in blank, which had not been included in the estate tax return. The Court observed, in part: "Members

of a family dealing with each other disregard the ordinary rules of business, and many things that may look suspicious in dealings between strangers, lose their ominous significance when we are dealing with a closely knit family corporation." The Court's viewpoint as so expressed is considerably more liberal than that also heard that family transactions must bear close scrutiny.

Public Contracts

Renegotiation.—The Tax Court has ruled that receipts from government contracts held by two separate business concerns operated by the same two equal partners may be combined to reach the jurisdictional amount required for renegotiation by the War Contracts Price Adjustment Board. While the two businesses were distinct and manufactured different types of tools, the Court found they were under common control, within the provisions of the Renegotiation Act of 1942.

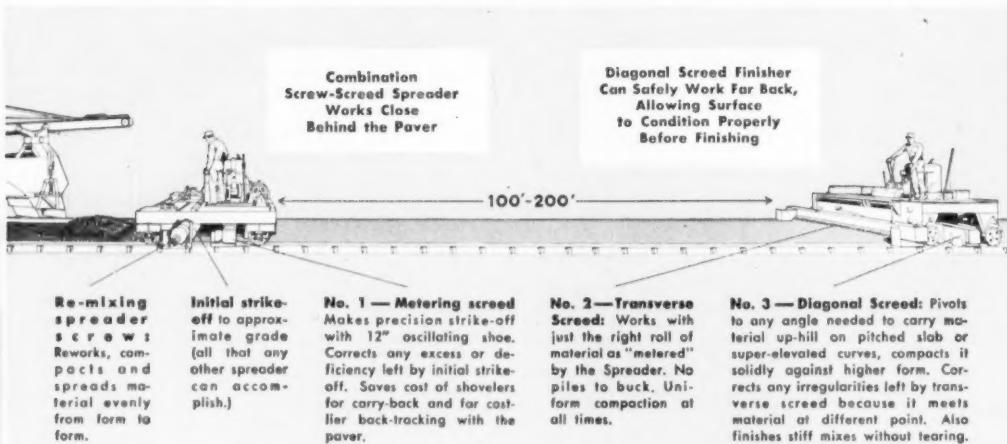
Changed Conditions.—Cost to the Government generally includes overhead and profit charged by the performer, states the Armed Services Board of Contract Appeals. Thus, such Board interprets "cost" under the "Changed Conditions" article of a Government contract, permitting modification to provide for any increase or decrease of cost resulting from changed conditions, to entitle an Army construction contractor to an allowance for overhead and profit as part of the relief granted under such article.

Contract Settlement.—While the Contract Settlement Act permits contractors aggrieved by the findings of the contracting agency to bring suit against the United States, it does not afford such relief to subcontractors. A District Court has held that a subcontractor, after being denied recovery by the contracting agency, may not sue the United States for compensation it failed to receive from the bankrupt prime contractor.

Jaeger 3-Screed Paving Team

(Accurate Metering Screed on the Spreader,
Transverse Screed and Diagonal Screed on the Finisher)

**gets faster production and labor-savings
never before possible on concrete slab**



Note how the above Jaeger method fully mechanizes your operation, effects direct labor savings in front and in back of finisher, and insures faster, steadier, easier production of the maximum daily yardage your dual drum pavers can produce. Has eliminated requirement of a second finisher behind the spreader on high production work in several states.

Jaeger Type CSS Combination Screw-Screed Spreader: The only spreader that positively eliminates segregation and improves uniformity by remixing on the subgrade — and also accurately meters to the finishing machine by second strike-off with 12" oscillating screed. Same machine can both spread and finish concrete base for bituminous surfaced city streets. Widths 10-15, 20-25 ft. Also available without oscillating metering screed, if so desired.

Jaeger Type X Diagonal Screed Finisher: The only finishing machine that can finish flush to higher form on pitched slab and super-elevated curves. Screed angle instantly adjustable as required. Angle finishing also averages out any irregularities left by front screed and finishes stiff concrete without tearing. Widths 10 to 32 ft.

Ask your Jaeger distributor or send for complete Concrete Paving Catalogs

THE JAEGER MACHINE CO., Columbus 16, Ohio



JAEGER
engineered equipment
PUMPS • MIXERS • COMPRESSORS • HOISTS

As the British See Us

Significant factors of the construction industry in this country, which are generally taken for granted by those in the industry, emerge from the report of the British Building Industry Productivity Team which was published last month.

The speed and low cost of American construction methods were impressive to the team which visited parts of the United States last summer under auspices of the Anglo-American Council on Productivity, as reported in the story on page 46.

But equally impressive was the spirit of collaboration on the job, inspired by the driving force of the general contractor; the industrial climate of free and open competition; and the incentive of workmen to produce to maintain their standards of living.

What makes the report particularly interesting is that six members of the 17-man team were representatives of labor, the others representing management and the professional groups. The report represented the unanimous opinion of the entire group.

In a chapter about the general contractor's organization, the report stated in part:

"The efficiency of the American building contractor can be simply explained. Operating in a free and competitive market and being supplied at the earliest possible date with full information of the work to be done, he has both the incentive and the opportunity to organize the constructional work and to carry it out with speed and economy."

In discussing subcontractors, the report stated:

"Effective coordination and correlation of the work of subcontractors is one of the most striking features of American contract organization. The relationship between the general contractor and subcontractors and between one subcontractor and another is usually excellent, and from the time construction starts a team spirit is built up among all concerned which does much to ensure the success of the job. Subcontractors appeared in general to be more efficient and more responsive to good organization by the general contractor than is normally the case in Britain."

Some indications of the difficulties faced by the industry in Britain can be gained by the following excerpt:

"If a British contractor were suddenly to find himself completely free from the distractions and difficulties which are general at the present time—difficulties arising from shortages of materials and labor (and the consequential government controls), inadequacy and late arrival of architects' plans and instructions, delays in obtaining payment for work done, etc., he might perhaps be excused for thinking for a moment that the problem of productivity had been solved.

"Any such feeling of complacency would, however be dangerous. It might induce a supine attitude that current restrictions on building are so formidable that, till

they are swept away, no improvements in organization of management are worth attempting.

"Any illusion that sufficient progress would be assured by returning to the pre-war position would be quickly dispelled by seeing the speed at which good organization is producing buildings in America."

Because of the insight which the British report gives into the American construction industry, further excerpts from the report will be carried in the July issue of this magazine.

Need for More Highway Construction

The need for expanding the highway construction program was forcefully demonstrated to Congress last month by Commissioner Thomas H. MacDonald of the Bureau of Public Roads.

As reported in the story on page 25, he pointed out to the Senate Public Works Committee in his testimony on federal aid highway legislation that the 1949 actual production of miles of highways was less than one-half the replacement rate required.

He cited the increase in traffic as one of the reasons for improved highways. In 1920, when the first federal aid highway construction program was really getting under way after World War I, traffic on roads and streets was 45 billion vehicle-miles.

By 1929, traffic had increased 340 per cent to 198 billion vehicle-miles. By 1939 it had increased to 285 billion vehicle-miles, and by 1949 the increase was to 425 billion.

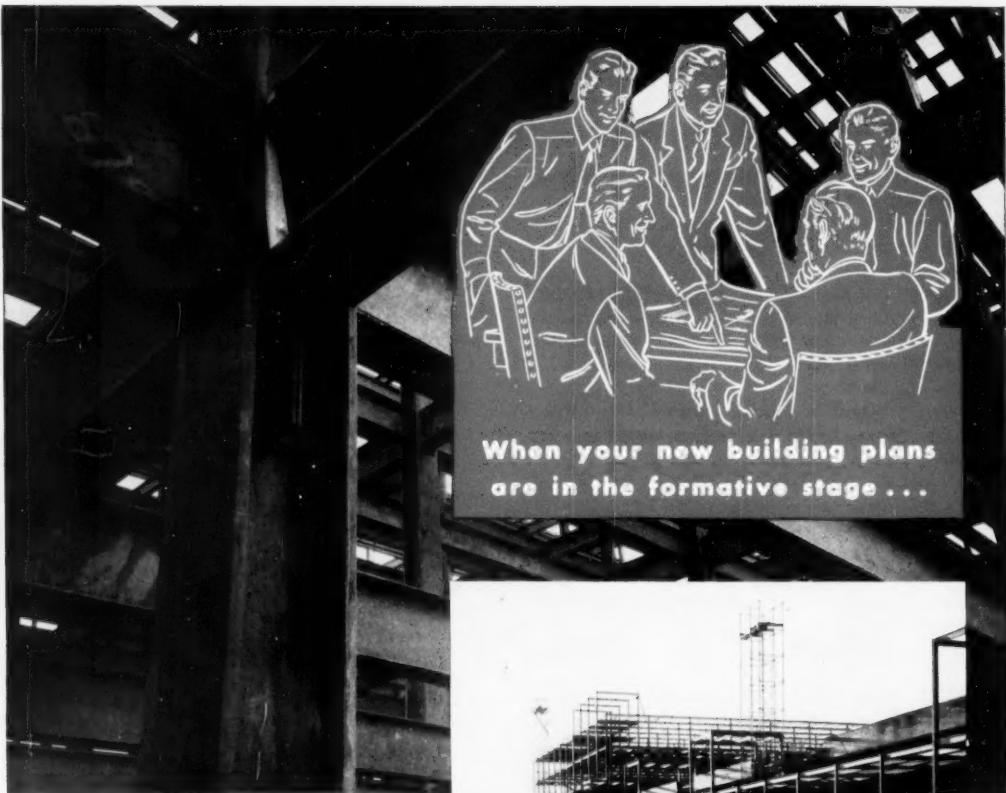
With automobile and truck production continuing at a high level, it is reasonable to assume that there will be increasing traffic on the highways.

Illustrating the problem another way, Mr. MacDonald pointed out that on January 1, 1950, there was on the federal aid primary system in rural areas a total of 109,000 miles of high-type surface. By January 1, 1960, 48,000 miles of these highways, or 44 per cent, will wear out.

Of the 81,000 miles of intermediate-type surface, 56,000 miles, or 69 per cent, will be worn out by 1960. And of the low-type surfaces, the indications are that practically all of the 20,000 miles of this type will be lost during the 10-year period.

The factors of increased traffic, obsolescence and deterioration are sufficient to more than justify an increased highway construction program.

Another strong reason for improving our highways was highlighted by the fact that deaths from accidents connected with travel and congestion reached a total of more than 570 over the Memorial Day week end, to establish a new record. Commissioner MacDonald reported that 4,236 persons had died in highway accidents in the first four months of the year, compared to 3,704 killed last year.



**When your new building plans
are in the formative stage ...**

This great plant of the Sunshine Biscuit Company, at Kansas City, Kansas, followed the Allied plan from blueprint to finished erection of 4,242 tons of fabricated structural steel.



Consultation with ALLIED

Pays Big Dividends

• The Allied staff takes over when you send your plans and specifications to us for estimating.

First, bids are submitted for your work. Then, when awarded the job, work starts on structural units, according to your plans and specifications, in one of Allied's plants. Here unified control and modern equipment speed your job through without a bottleneck. Finally, "on location," the erection crew proceeds to button up structural steel on the due date.

It's a well-synchronized plan of fabrication and erection. Built on efficient scheduling, a maximum use of materials and men. Ask Allied about it. It pays dividends in time and money.

**3 PLANTS WORKING AS ONE HUGE OPERATION TO GET
YOUR STRUCTURAL STEEL FABRICATED AND ERECTED**

Affiliates

Clinton Bridge Corporation

Gage Structural Steel Corporation

(SEND ALL INQUIRIES TO ABOVE ADDRESS)



Midland Structural Steel Corporation

» PUBLIC WORKS of nearly all kinds, and particularly those financed with federal grants-in-aid, are taking a heavy pounding in Washington at the hands of groups championing the economy measures advocated by the Hoover Commission.

The sinews of the Citizens Committee for the Hoover Report, organized nationally and in communities around the country—and apparently adequately endowed financially—are being exercised on many targets which they believe are the most vulnerable for paring down the national budget.

The committee for some time has quietly been carrying out an intelligent, "grass roots" advertising and propaganda campaign. News releases, Ripley-type cartoons and other eye-catching items attacking such targets as the Army Corps of Engineers, have been sent regularly to hundreds of small, rural newspapers throughout the country.

Chambers of Commerce Active

In Washington, national chamber of commerce groups have been in the forefront of those seeking to reduce government spending.

Especially outspoken on government expenditures, with special emphasis on public works, is the Council of State Chambers of Commerce, which established an office in the capital in 1947.

Not departmentally connected with the United States Chamber of Commerce, but enjoying its cooperation, the council's purpose is stated to be the voicing directly to federal agencies of the opinions of the state organizations which support it.

Hewing closely to the Hoover Commission line, the council has been continually advocating decreased federal spending as a primary step toward reduction in taxes, and a relaxation of federal controls. It is particularly concerned with grants-in-aid and their impact on state spending and taxing policies.

The council denounces appropriations for rivers and harbors and flood control; opposes federal aid to education; and believes too much is being spent on hospital and highway construction.

In fact, the council, in its bulletins and press releases on "Federal Spending Facts" sweeps a seythe at most federal construction programs.

For example, in an "analysis" of grant-in-aid bills before Congress, the council stated:

"No tricks were missed in programs

Public Works Under Attack by Economy-Minded Groups

- **State Chambers' Council Bludgeons All Types**
- **Hoover Followers Direct "Grass Roots" Campaign**

for public works. Continuing programs include up to \$1 billion annually for school construction, \$1.6 billion for public housing, \$75 million for hospital construction, and \$500 million for highway construction. One shot measures to speed up state and local construction with federal money include \$75 million for armories, \$150 million for schools in areas burdened by defense activities, \$300 million for rural roads, \$100 million for public works planning, and finally as a catch-all, \$10 billion for general public works construction."

(A recent meeting of the Construction and Civic Development Department Committee of the U. S. Chamber brought out the value of the program for advancing loans to state and local governments for advance planning of public works. The loans are reimbursable.)

In another press release, the council criticized the House Appropriations Committee for not making larger cuts in public works:

"Although the committee made substantial cuts in a few departmental appropriations, it dealt far too leniently with many others. For instance, it reduced the \$798,482,000 Corps of Engineers appropriation (rivers and harbors and flood control) by \$197,537,000, or almost 25 per cent. On the other hand, it cut by only \$31,259,900, or about seven per cent, the \$447,814,500 request of the Interior Department for its reclamation and other public works projects, although a much larger reduction could have been justified. . . ."

Urge Further Cuts

The council urged further cuts in other construction appropriations, including Veterans Administration hospitals, highways, and federal-aid hospitals.

Spokesmen of the council report that it represents 32 state chambers of commerce. However, its structure is quite flexible in that in stating its stand on any particular measure, only those individual members taking the

same view are represented as backing the council.

The U. S. Chamber of Commerce has been carrying on a campaign for the Hoover proposals on a higher plane, and at its recent annual meeting featured a session on "The Battle of the Budget Bulge" with Dr. Edwin G. Nourse, former chairman of the President's Council of Economic Advisers, as a speaker.

New Post Office Projects

Twenty-six new post office projects for future construction were announced last month by the General Services Administration and the Post Office Department.

This third list to be announced under Public Law 105 of the last session which authorized \$40 million for site acquisition and preparation of plans for 375 federal projects, brings the total selected to 491. GSA's Public Buildings Service now is advertising for sites and making surveys incident to plan preparation.

New Estimates Delayed

The revised federal estimates of new construction forecast by THE CONSTRUCTOR in May (page 23) were still in preparation at press time and are not expected to be available until late this month.

The Constructographs on pages 9 and 11, therefore, reflect current volume estimates on the old basis. The new figures will indicate a substantial increase in construction put-in-place on the basis of additional information. The changes also are expected to be reflected in construction employment figures.

Meanwhile, new construction activity on the current basis continued to show a seasonal rise in May. The first five months of the year, bolstered by a higher than ordinary volume during the winter months, show a total more than 20 per cent above the same period a year ago. (See chart on page 9.)

President Now Seen Opening Drive for Valley Authorities

- More Outspoken for CVA on "Non-Political" Tour
- Recent Messages More Specific on Subject
- Also Severely Criticizes Taft-Hartley Act

» PRESIDENT TRUMAN used the event of another dedication of Grand Coulee Dam, built by contract, to advocate establishment of a Columbia Valley Authority patterned after the Tennessee Valley Authority.

After signing the flood control and rivers and harbors bill, authorizing funds for the Army Corps of Engineers, he sent a message to Congress again advocating a CVA and the coordinated development of water resources.

Throughout his recent non-political trip to the West he continuously urged the adoption of his Fair Deal program.

Valley Authorities

Previously the President, while seeming to favor the establishment of additional valley authorities by stating that advantage should be taken of the experiences of the TVA, had not been specific in actually advocating the establishment of such authorities.

At Grand Coulee, in his speech which made no mention of contractors as constructors of the project, the President spoke of the need for development of resources, and then stated:

"I have left till last mention of the Tennessee Valley. In that valley we have made more progress than in any other. There, the idea of coordinated planning for all resources was first worked out and most completely applied. The Tennessee Valley Authority has been outstandingly successful in its area.

"We have worked out a set of recommendations for a Columbia Valley Administration, which builds on that successful experiment but recognized the different circumstances out here . . .

"I believe that the Columbia Valley Administration is a necessary step in the sensible democratic development of the Northwest. I believe that the people of this area think so, too. And when they make their voices heard, I am sure the Columbia Valley Administration will be established."

In a message to Congress after signing the \$1.8 billion flood control

and rivers and harbors bill, the President criticized the piecemeal development of resources. He concluded the message by stating:

"I urge the Congress to develop more satisfactory procedures for considering and authorizing basin-wide development programs. We are a long way, both in the Executive and Legislative Branches, from the kind of comprehensive planning and action that is required if we are to conserve, develop and use our natural resources so that they will be increasingly useful as the years go by. We need to make sure that each legislative authorization, and each administrative action, takes us toward—and not away from—our goal."

The President was particularly critical of the omission from the bill of the so-called "basin account" consisting of projects in the Columbia Valley which would be undertaken by the Bureau of Reclamation. Following the recommendation of Secretary of Interior Chapman, a bill authorizing the basin account was introduced in the Senate, but not referred to the Public Works Committee which held hearings on the flood control bill. The basin account bill was rejected by the Senate as an amendment to the flood control bill. The President stated in his message:

"Nearly three years ago, I directed the Departments of the Army and Interior to prepare a joint plan for their further work in the Columbia River basin. They did so, and, among other things, recommended an integrated schedule of projects to be constructed, and a 'basin account' to permit unified physical and financial operation of the several federal projects to be constructed in the basin.

"Instead of authorizing this series of projects and the basin account, the present act merely authorized those projects which were included in the joint plan for construction by the Army Department. It omits all the projects which were jointly recommended for construction by the Inter-

ior Department—some of which should be constructed earlier than a number of Army projects which are authorized in this act. The present act also omits the basin account, without which the various federal projects to be constructed in the Columbia River basin cannot be combined in a sensible and practical operating system.

"I urge that the Congress reconsider this matter at the earliest opportunity, and authorize the missing pieces of the Army-Interior Columbia basin plan. As I have said a number of times, the Army-Interior joint plan is no substitute for the truly comprehensive resource development which would be made possible by the establishment of a Columbia Valley Administration, but the joint plan would be clearly superior to the partial and inadequate authorizations contained in this act."

Taft-Hartley Act

In his Butte speech the President slashed at the Taft-Hartley Act, stating:

"Before the passage of the Wagner Act in 1935, the status of collective bargaining in the United States was at a low ebb. Under the Wagner Act, great progress was made in the field of industrial relations. All too often, we fail to realize that the progress achieved under that act had a lot to do with the improvement in economic conditions we have enjoyed. Make no mistake about it, the Wagner Act was one of the bulwarks of American liberty and prosperity.

"Then came 1947 and Taft-Hartley. The Taft-Hartley Act emasculated the Wagner Act and subverted its purpose. The avowed intention of its sponsors was to strengthen the hand of management. To do this, they devised a clever law which insidiously undermines the strength of labor unions.

"The Taft-Hartley law hangs over the head of labor, threatening to destroy the gains of fifteen years. There it will hang until we are able to replace it with a law that is fair to management and labor alike.

"That is something we must do—not only for the sake of labor, but for the sake of the whole economy. I believe profoundly that the Taft-Hartley law is a substantial infringement of the basic freedom to bargain collectively.

"I will not cease to fight for its repeal."

» MANAGING DIRECTOR H. E. Foreman of The Associated General Contractors of America on May 26 presented testimony to the Senate Public Works Committee on S. 3424, the federal aid highway authorization bill. Excerpts from his statement follow.

Highway construction costs are in line with the prices of other services and commodities.

Comparisons have been made between the composite mile cost index compiled by the Bureau of Public Roads and the wholesale commodity price index compiled by the Bureau of Labor Statistics. The latter generally is used as a measure of national price trends.

The composite mile cost index, computed on the basis that the 1925-1929 average equals 100, for 1939 had an annual average of 72.6. In 1949 the average was 152.7.

The wholesale commodity index, computed on the basis that the 1926

A.G.C. Cites Highway Costs, Work Capacity

• Foreman Also Points Out Competition to Senate Committee

average equals 100, for 1939 had an annual average of 77.1. In 1949 the average was 155.0.

The percentage increases for both were very close. It has been interesting to note, however, that there has been a faster decline from previous peaks in highway construction costs than in the wholesale commodity index. The decline for highway costs has been 11 per cent by the first quarter of 1950, compared to 7.8 per cent for the commodity index.

As it stood at the end of the first quarter of 1950, highway costs were 94 per cent above the 1939 costs; and the wholesale commodity price index was 97 per cent above the 1939 average.

These figures are mentioned to demonstrate that highway construction

costs have not been out of line with the prevailing prices of other services and commodities.

Conclusion

In conclusion, I would like to emphasize again these points:

1. In the past highway construction costs have been in line with the national trend in prices of other services and commodities. Recently highway construction costs have declined more than the average of other costs. This means that full value has been received for highway expenditures.

2. Intense competition is prevailing and is expected to prevail in highway construction. This means that in the future there will be the positive force of competition to make highway construction as economical as possible.

3. Highway contractors have the capacity to carry out an expanding volume of highway construction with a maximum of speed and efficiency.

4. Highway contractors, through the A.G.C. locally and nationally, are co-operating with highway departments to develop practical suggestions for improving highway construction operations.

5. In order for the public to secure the maximum return for its investment in highway construction, contracts should be awarded to the lowest responsible bidder after public advertisement.

MacDonald Points Up Highway Deficiencies

• 1949 Construction Below One-Half Replacement Needs

» THE 1949 volume of highway construction was less than one-half the replacement rate required, Commissioner Thomas H. MacDonald, of the Bureau of Public Roads, told the Senate Public Works Committee.

In his testimony Commissioner MacDonald also pointed out that the competition between highway contractors was one important reason for recent declines in highway construction costs.

Early in June the committee was holding public hearings on federal-aid highway legislation. The House on May 19, by a 246 to 34 vote, had passed H.R. 7941, by Representative Whittington, chairman of the similar House committee. That bill would authorize a total of \$645.5 million for each of the fiscal years ending June 30, 1952 and 1953. (*JUNE CONSTRUCTOR*, page 28)

In the Senate most consideration was being given to the bill, S. 3424, by Chairman Chavez (D., N. Mex.) which would authorize a total of \$970 million for each of the fiscal years. One feature of the Chavez bill is a \$75 million annual authorization for county road funds.

During 1949 more than \$421 million of federal funds were spent on the federal aid system. 19,851 miles of

highways, 3,140 bridges, and 645 grade separations were completed. He stated:

"The federal-aid highway program is very nearly exclusively dedicated to roads now in service. The problem is to modernize and rebuild to required standards for the amounts and types of traffic. The 1949 actual production in miles is less than one-half the replacement rate required."

43,000 Miles Per Year

He estimated that for the next 10 years approximately 43,000 miles of primary and secondary roads needed replacing each year, of which 13,270 miles annually is on the rural federal aid primary system.

Speaking of highway construction costs, he said he could foresee no cause for a major increase.

Committee hearings were expected to conclude before the middle of June so that a bill could be reported out and acted upon before adjournment.

The Chamber of Commerce of the United States presented testimony recommending that the federal funds be cut and argued for the principle that federal funds should be used only for highways used primarily for interstate commerce.

State Buys Equipment

The North Carolina Supreme Court on May 3 upheld the highway department's use of bond issue funds for secondary road purposes to purchase construction machinery. Nello L. Teer, Durham, A.G.C., had sought a restraining order compelling the commission to use the entire \$200 million bond fund for road building only. The court held that it was legal for the department to purchase equipment for force account construction operations.

The state has purchased machinery at prices 30 to 35 per cent below those quoted to general contractors. The A.G.C. Carolinas Branch by resolution has condemned these sales as "detrimental to the construction industry."

Advance Planning Transferred to HHFA

• Housing Agency Takes Over Program Not Related to Housing

» SENATE approval of Reorganization Plan No. 17 transfers the loan program for the advance planning of non-federal public works from the General Services Administration to the Housing and Home Finance Agency. The program has been administered by the Community Facilities Service of GSA, most of which also will go to HHFA.

Thus, non-housing prerogatives are being centralized in the growing HHFA, which only recently was endowed with extended influence in its urban redevelopment and slum clearance programs.

The program of making reimbursable advances to state and local governments for the planning of public works specifically excludes housing. First authorized by the War Mobilization and Reconversion Act of 1944, it is concerned with the construction of all types of public works, and was designed to provide an orderly schedule of construction.

In October 1949, the program was reactivated with an authorization of \$100 million. The initial appropriation was \$25 million, of which \$8 million was in cash, and \$17 million in contract authority. The advances are interest-free and must be repaid when construction begins.

By the end of April, \$4.9 million had been approved to provide plans for an estimated \$149 million in construction. Total applications under

review request more than \$19 million in advances to plan an estimated \$860 million in construction.

A cost analysis of this latter figure shows that nearly one-third, or \$280 million, is for sewer, water, and sanitation projects. As in the first planning program, most of the applications are coming from small towns desiring water and sewage disposal systems. Plans for highway and bridge projects

are next, with an estimated cost of \$243 million for the proposed work. Advances requested for planning schools and other educational facilities would provide for another \$176 million in construction.

In the first program, 6,745 applications were approved and 6,077 plans were completed for \$2.3 billion of public works. Advances for completed plans amounted to almost \$50 million with more than \$9 million repaid so far.

Applications deferred due to expiration of authority or funds totaled \$31.5 million in advances, representing about \$1.1 billion in construction.

Planning Advances—Second Program

Estimated Total and Construction Costs of Proposed Public Works for which Applications Are Under Review or Approved as of April 30, 1950:

(Thousands of Dollars)

TYPES	APPLICATIONS UNDER REVIEW		APPLICATIONS APPROVED	
	Esti- mated Total Cost	Esti- mated Construction Cost	Esti- mated Total Cost	Esti- mated Construction Cost
<i>Totals</i>	860,007	742,017	148,697	127,111
Highways, Roads, Streets	227,478	222,024	2,330	2,127
Bridges, Viaducts, etc.	15,587	13,659	1,551	1,420
Airports	1,168	885	3,943	3,402
Sewer Facilities	229,376	192,353	66,510	56,141
Water Facilities	48,359	39,793	6,397	5,647
Sanitary Facilities	2,556	2,151	591	517
Schools, Other Educ. Fac.	176,316	146,950	43,088	37,516
Hospitals & Health Fac.	17,406	14,924	178	150
Other Public Buildings	63,454	49,816	15,267	13,422
Parks & Recreational Fac.	12,258	11,007	296	270
Misc. Publ. Facilities, NEC	66,049	48,455	8,546	6,499

House Reinstates Force Account Limit

• General Appropriation Bill Has Long Wait in Senate

» DURING ITS 21-day debate on the General Appropriation Bill, the House included a limitation on the funds the Bureau of Reclamation and the Bonneville Power Administration can spend for force account work. The same as last year, the limitation restricts expenditures to not more than 12 per cent of the allotment for any project, and fixes the maximum at \$225,000.

The bill was reported out of the House Appropriations Committee minus the limitation. Efforts for its inclusion were rewarded when amendments offered by Representative Nor-

rell (D., Ark.) were adopted. The A.G.C. testified before the Senate subcommittee late in April, favoring the inclusion of the limitation. (May CONSTRUCTOR, page 27.)

The Senate Appropriations Committee has considered the Interior Department section of the bill, but has not as yet released its findings. Senate acceptance of the limitation is expected.

The \$29 billion recommended by the President was reduced to \$28,894 million by the House which passed the bill on May 10. With a minor exception, construction fund recommenda-

tions of the House committees were given a carte blanche. House cuts totaled \$1,718 million, of which \$400 million was in payroll deductions, \$653 million was added for the military.

The 25 per cent reduction in the budget recommendations for the Corps of Engineers may be eased in the Senate. Already, a Senate subcommittee has voted for only 10 per cent less.

Final passage of the bill by July 1 appears impossible. House debate extended from April 3 to May 10, and was preceded by about two months of committee hearings. Even though Senate subcommittee hearings began before House action concluded, the bill may not be reported out of the Appropriations Committee for another month.

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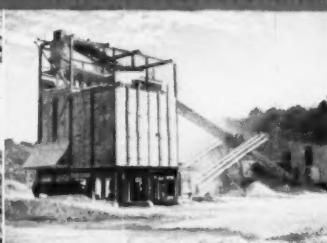


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» THE PROBLEMS of handling specialty contracts for building construction are problems of harmonious industry relationships for which both general contractors and specialty contractors have responsibility for fair dealings.

They are not problems which are solved by subjecting the construction industry to further federal or state legislation and regulation.

These are highlights of a statement which has been sent to all members of The Associated General Contractors of America following a thorough review of the subject at the most recent meeting of its Executive Committee in Washington. The balance of the statement is as follows:

"National and local associations of specialty contractors now are conducting organized campaigns to seek state and federal legislation to require the award of separate contracts to specialty contractors on public works, or legislation to require general contractors to name in their bids the subcontractors they propose to use who file copies of their sub-bids with the awarding authority.

"Representatives of specialty contractor organizations have called at the A.G.C. national office to discuss the possibilities of a common approach to the question through legislation.

"The committee's conclusions were as follows:

"The best interests of the public agency or other purchaser of construction are served when undivided responsibility for construction of the project is placed upon the general contractor."

A.G.C. Resolution Quoted

"There is no need to alter any portion of the resolution entitled, 'Maximum Efficiency in Construction,' adopted by the 31st annual convention, which stated in part:

"One all-inclusive general contract should be awarded for construction of each project, or its major portions, so that advantage can be taken of the efficiency which can be achieved when complete responsibility and coordination is centralized in one competent organization."

"The expression of the National Joint Cooperative Committee of The American Institute of Architects and the A.G.C., approved by the 31st annual convention, accurately reflects

Specialty Contracts Problem Requires Industry Harmony

- Legislation or Regulation Held Not the Answer
- A.G.C. Cites Benefits of Central Responsibility
- Code of Ethical Conduct Quoted on Subject

A.G.C. opinion. The text is as follows:

"The National Joint Cooperative Committee of The American Institute of Architects and The Associated General Contractors of America is strongly of the opinion that in the interests of the most efficient coordination of the work of construction the practice of awarding separate contracts, not under the control of the general contractor, leads to confusion and delay and should be discontinued.

"In the opinion of the committee, such practice causes unnecessary delays in construction by depriving the general contractor of authority to coordinate all phases of the work and makes it practically impossible for him to maintain harmonious labor relations and prevent time consuming jurisdictional disputes, while imposing added burdens of coordination on the architect who is not ordinarily expected to assume this responsibility.

"The award of separate contracts may also result in the refusal of the general contractor to accept an ascertained and liquidated damage clause for delay in the completion of his contract.

"The committee is of the opinion that, where it is not possible to include all work under a single general contract, contracts separately awarded should be placed under the direction and control of the general contractor with appropriate compensation."

Code Specifies Conduct

"The A.G.C. understands the importance and problems of specialty contractors but does not favor the naming of subcontractors in the general contractor's bid, and does not recommend that its members become parties to any bid depository system.

"The responsibilities of general contractors for handling subcontractors in a manner equitable to all parties are

set forth in Section 3 of the A.G.C. Code of Ethical Conduct. The code states:

"The operations of the contractor are made possible through the functioning of those agencies which furnish him with services or products, and in contracting with them he is rightfully obligated by the same principles of honor and fair dealing that he desires should govern the actions toward himself of architects, engineers and client owners.

"Ethical conduct with respect to subcontractors and those who supply materials requires that:

"1. Proposals should not be invited from anyone who is known to be unqualified to perform the proposed work or to render the proper service.

"2. The figures of one competitor shall not be made known to another before the award of the subcontract, nor should they be used by the contractor to secure a lower proposal from another bidder.

"3. The contract should preferably be awarded to the lowest bidder if he is qualified to perform the contract, but if the award is made to another bidder, it should be at the amount of the latter's bid.

"4. In no case should a low bidder be led to believe that a lower bid than his has been received.

"5. When the contractor has been paid by a client owner for work or material, he should make payment promptly, and in just proportion, to subcontractors and others."

"The problem is one which can be handled more satisfactorily to all parties concerned through the improvement of industry relationships than by additional legislation.

"A public relations program was authorized to explain the A.G.C. position and the benefits of centralized responsibility in the construction of projects."

Fast Work—

L. B. Perrin (right), vice president of Virginia Engineering Company, Inc., is congratulated by Colonel E. E. Gesler, North Atlantic Division Engineer . . .



. . . for expeditious completion of this 320-bed hospital at Wilmington, Delaware.

Contract for the \$8.5 million Veterans Administration hospital was let February 16, 1948, with completion scheduled for May 22, 1950.

Groundbreaking took place March 19, 1948, and the hospital was completed two years and two days later, March 21, 1950, all equipment installed, and patients hospitalized—This despite a year's delay in con-

struction of the boiler house due to indecision as to whether to use coal or oil.

Biggest factor in the speedy job, according to Corps of Engineers spokesmen, was excellent delivery control of all materials and effective coordination of subcontract work by the general contractor.

No extension of time was requested,

Ask Hardware Schedules

To improve builders' hardware delivery dates, the National Contract Hardware Association has appealed to general contractors to make every effort to furnish schedules of hollow metal and other work requiring templates as soon as possible after the signing of the general contract.

Pointing out that the hardware industry is not entirely to blame for delays in completion of many buildings, the association stated in part:

"Contracts for hollow metal work are frequently let shortly after the general contract is signed. Then several months elapse before the hollow metal door schedule is finally checked and approved. It is then submitted to the builders' hardware contractor with an appeal to the latter to furnish templates and hardware schedule for the next day.

"This just can't be done. Our industry is shorthanded on technically trained men and schedules and templates furnished on such short notice are frequently inaccurate or full of errors. In addition, it is necessary for the hardware contractor to put aside equally important work to comply with these unreasonable requests."

GI-FHA Loans to End

The Veterans Administration, as authorized by the Housing Act of 1950, has set October 20, 1950, as the date on which all combination GI-FHA loans will be terminated. The VA second mortgage loans were originally provided under section 505 of the Servicemen's Readjustment Act of 1944.

To assure orderly expiration, four successive steps will be taken:

1. After July 20, prior approval of second mortgage loans will be withheld unless the interest on the first mortgage loan is $4\frac{1}{4}$ per cent or less.

2. After August 20, the VA will not guarantee supervised loans unless the first mortgage loan is at $4\frac{1}{4}$ per cent or less.

3. New applications for prior approval on combination loans will not be certified after September 20.

4. All loans will be completed prior to October 20.



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Prepared by The Associated General Contractors of America and Cooperating Bodies

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1.	A.G.C. Manual (Contains documents listed below: Nos. 3-30, inclusive, and Nos. 34, 35, 36, 36A., 37, 38)	85.00	850.00		26.	Standard Questionnaires and Financial Statement for Bidders—Complete in Cover. Engineering Construction (For Qualifying After Bidding)			
2.	Accident Prevention Manual (Revised and enlarged 1949)	3.00	30.00	\$210.00	27.	Standard Questionnaires and Financial Statement for Bidders—Complete in Cover. Building Construction (For Qualifying After Bidding)	20	1.80	12.00
	CONTRACTS				28.	Financial Statement and Questionnaire for Credit Transactions	20	1.80	12.00
3.	Standard Contract for Engineering Construction issued by the Joint Conference on Standard Construction Contracts	.25	2.75	20.00		MISCELLANEOUS			
4.	Standard Building Contract of the American Institute of Architects—Revised 5th Edition	.50		47.50	29.	Insurance Check List	10	1.00	5.00
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11.	Equipment Rental Agreement	.10	.50	3.00	36a.	Contractors' Pump Standards			
12.	A.G.C. Proposal Form	.10	.50	3.00	37.	A.I.A. Standard Form of Arbitration Procedure			
	ESTIMATING AND ACCOUNTING				38.	Suggested Guide to Bidding Procedure			
16.	Building Estimate Summary	.10	.50	3.00		FOR A.G.C. MEMBERS ONLY			
17.	Job Overhead Summary	.10	.50	3.00		A.G.C. EMBLEM			
20.	Contractors' Equipment Ownership Expense (Itemized tables of ownership expense elements with instructions for application. Revised 1949)	1.00	10.00	65.00		List of Styles and Prices on request			
21.	Equipment Record—Bond paper	.10	.50	3.00		SIGNS AND SEALS			
22.	Equipment Record—Cardboard	.10	.50	3.50	40.	A.G.C. Metal Seal (red and black) 10" dia.	40		
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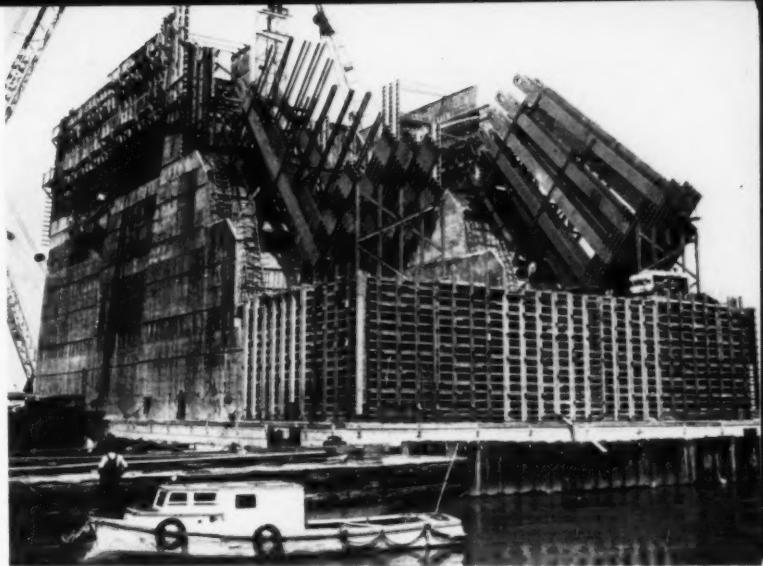
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June 1950

Steel beams to hold the cables take shape on the east anchorage pier of the Delaware Memorial Bridge. Up some 100 feet when this picture was taken, the superstructure will rise about 158 feet above the Delaware. Nineteen cable strands, each consisting of 436 wires, will loop through eyes of anchor beams and converge to form 20-inch diameter suspension cables.



» WHEN Merritt-Chapman & Scott Corporation, A.G.C., completes the substructure of the \$40 million Delaware Memorial Bridge this month, it will have set two world records in the field of marine construction.

These "world's biggest" items which will never be seen by motorists who will use the 3½-mile long bridge as a coastal cut-off route linking Delaware's duPont Highway with New Jersey's new turnpike, are:

1. A record underwater concreting operation which reached its climax last August. The mammoth east anchorage pier, 99 feet wide, 225 feet long and 32 feet deep, is the largest block

Crossing the Delaware — 1950

• Record Size Caisson, Tremie Pours Reported

ever to be built by the tremie method.

2. Building of a 60-well caisson for the equally-big west anchorage pier, 95 feet by 221 feet, reportedly the largest in area ever constructed.

The east anchorage pier, just completed on the Jersey side, is about 158 feet above water level. Its half-acre foundation block required construction of a cofferdam 99 feet by 225 feet driven to bed rock.

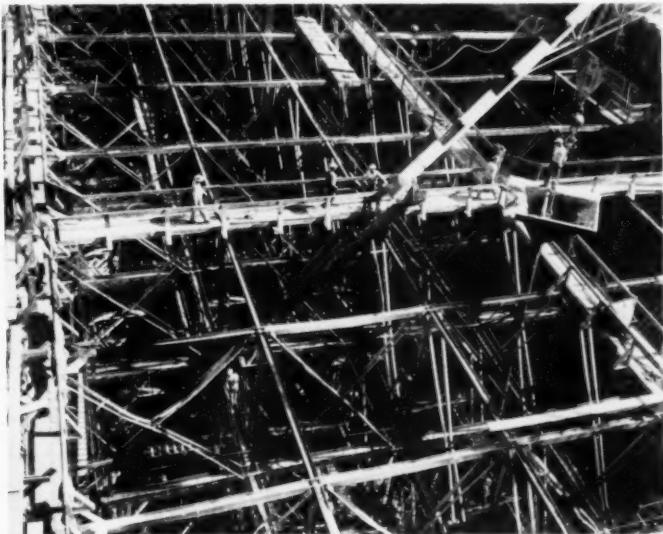
After clearance of the river bed

down to good bottom some 70 feet below the surface, the half-acre block required assembly of almost the entire fleet of 53 pieces of MC&S floating equipment that was used on the project.

Chuting of the concrete through a 12-inch pipe by the tremie method was carried out three-quarters of a mile from the shore by means of two floating concrete mixing plants and an assemblage of cement, sand and gravel barges. A steady flow was maintained around the clock for 7.4 days.

From the time the operation started at 8:30 a. m. August 15 until its completion at 6 p. m. August 22, a total of 26,888 yards were poured to seal the slab to bed rock.

Project manager for the company is William Denny, working under direction of Ralph F. DeSimone, vice president in charge of the firm's Heavy Construction Division.

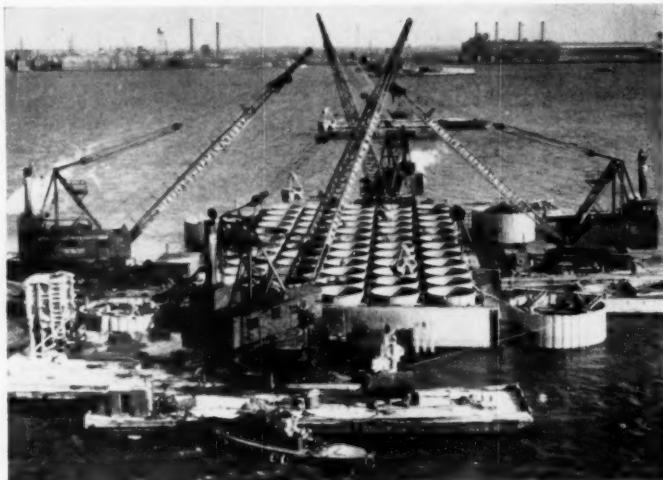


"In the dry" concreting operations on the east anchorage pier followed record tremie pour of 26,888 yards of concrete which took 7.4 days last August. East anchorage pier has just been completed, equally-large west structure to be finished this month.

All approach river piers have been completed, and the American Bridge Company, contractor for the superstructure, is erecting the 440-foot steel towers on the two tower piers.

The four-lane structure two miles south of Wilmington will rank as the world's sixth largest suspension bridge, with a clear span of 2,150 feet. Howard, Needles, Tammen & Bergendoff are consulting engineers.

Four whirley-type derricks work simultaneously at dredging from the 60-well, record-size caisson in construction of the west anchorage pier. Caisson is 95 by 211 feet long in area.



Fast Tunnel Job Averts Big Crop Loss

• California Contractors Hole Through in a Hurry

By "holing through" more than a month ahead of schedule, two contractors averted a crop loss estimated at more than \$200,000 in Grand Valley, Colorado, after the original irrigation tunnel had collapsed.

The tunnel collapsed March 8, depriving 30,000 acres of needed water. The Bureau of Reclamation took immediate emergency measures and

awarded a contract for tunnel construction March 16, to Grafe-Callahan Construction Company & Gunter and Shirley, and to Rhoades Bros. & Shofner, both of Los Angeles, and members of the Southern California Chapter, A.G.C.

By April 27, the tunnel was holed through, and on May 4, a normal flow of water was restored to the perishing

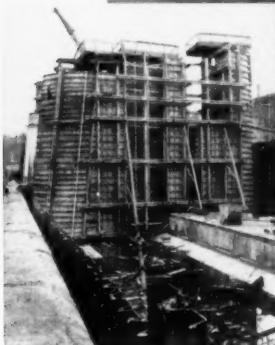
land through a new 2,245-foot tunnel.

It was first estimated that some \$1.3 million in crops, principally peach trees, would be lost if normal irrigation was not resumed until July 1. If the work could be completed by June 1, a loss of only \$200,000 was anticipated, and this date was set for the completion of the tunnel. The unexpected speed with which the task was accomplished was a boon to the farmers whose very livelihood was at stake, and also resulted in considerable savings to the government.

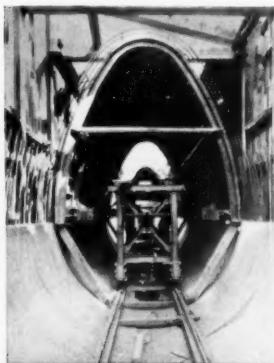


Collapsing timber supports are shown in tunnel at left, while drilling operations on new section are pictured at right.

Blaw-Knox Steel Form
on west end of Elkhorn
double track tunnel near
Coaldale, W. Va. This
form has made over 50
moves, covering 2300
ft. Average pour 450
yds. in 45 sections. Each
of the two forms used
could be moved and set
up for the next pour in
3 hours. A concrete fin-
isher was never used on
the job.



Typical of the wide variety of work handled by Blaw-Knox Steel Forms, the locks shown above are being built with Blaw-Knox Pier Forms. Below, a large sewer being constructed with Blaw-Knox adjustable forms.



"OF COURSE WE USE BLAW-KNOX STEEL FORMS!"

They slash concrete placing costs, and we can depend on Blaw-Knox engineering experience to help us solve tough or unusual problems."

"Bob" Parker,
Haley, Chisholm & Morris
Charlottesville, Va.

BOB PARKER has used Blaw-Knox Steel Forms for many years on his big construction jobs. He's had such success, satisfaction and economy that "of course" he chose them again for the Elkhorn tunnel on the Norfolk & Western R.R., the second double track tunnel the company has built since 1947 with Blaw-Knox Steel Forms.

When Bob is faced with a tough or unusual concreting problem, he never hesitates to call on Blaw-Knox for the engineering service that helps him save time, eliminate costly and unnecessary operations. Backed by more than 40 years' experience as the original and most prominent maker of Steel Forms for heavy construction, Blaw-Knox can help you by recommending the most efficient forms for your job and the most simplified, time and money-saving forming methods. This Blaw-Knox consultation service is available to any contractor for planning profitable construction jobs as early as the blue print stage.

WRITE FOR BULLETIN 2035 TODAY—Get experienced information on your job without obligation.

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BLAW-KNOX DIVISION OF BLAW-KNOX CO., Farmers Bank Bldg., Pittsburgh 22, Pa.
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EMPLOYERS MUTUALS TREAT CLAIMANTS
"as human beings want to be treated"
BY PROMPT, FAIR, CONSIDERATE METHODS



It is highly significant that Employers Mutuals continue at or near the top among insurance companies for prompt claim settlement, as revealed by many state records!

Whenever a claim is filed with Employers Mutuals, the claim specialist receiving it goes on the assumption that *that particular claim*—its prompt handling and fair settlement—probably is the most important matter in the current life of the claimant!

That, briefly, sums up Employers Mutuals' attitude and approach to claim settlement.

Employers Mutuals claim adjusters are chosen with the utmost care; they are company-trained in the highest ideals of humane consideration and prompt equitable claim settlement; above all, they realize that everyone with a just claim on Employers Mu-

tuals is a *human being*, and deserves to be treated as such!

Maintenance of these uncompromising standards has done much to protect and further the interests of the policyholders, who are sole owners of Employers Mutuals. In settlement of compensation claims, for instance, the good will created in the mind of the disabled worker and his dependents is reflected in better employee relations. Thus the mutual interests of employer and employee . . . so often identical . . . are fostered.

Employers Mutuals write: Workmen's Compensation—Public Liability—Automobile—Group Health and Accident—Burglary—Plate Glass—Fidelity Bonds—and Other Casualty Insurance. Fire—Extended Coverage—Inland Marine—and allied lines. All policies are nonassessable.



EMPLOYERS MUTUALS of WAUSAU

Home Office: Wausau, Wisconsin • Offices in principal cities • Consult your telephone directory

EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY OF WISCONSIN • EMPLOYERS MUTUAL FIRE INSURANCE COMPANY

» STEADY PROGRESS is being made in an ambitious 10-year plan of freeways in the Los Angeles area to alleviate one of the country's toughest urban traffic headaches.

In Los Angeles County there are $1\frac{1}{2}$ million automobiles—an average of 388 vehicles per 1,000 persons, the highest rate of any major city area in the United States. About 41 per cent of the automobiles in the State of California are in the Los Angeles area.

At present, traffic proceeds in the downtown area at 5.7 miles per hour on the average, according to the Traffic Engineering Bureau. This is not a measure of the rate during rush hours. In other areas the speed has decreased 30 to virtually 100 per cent in the past 10 years because of clogged traffic.

These vehicles travel the 4,800 miles of roads and streets at a slow pace because of the same problem facing many other cities—28,000 intersections, jogs and bottlenecks, and little continuity of alignment. Wide and narrow streets co-mingle and, together with the changes of direction in the rectangular street pattern, further prevent a free flow of traffic.

"Freeway" Solves Problem

The properly designed freeway, sharing no right-of-way with pedestrians or mass transit without design provisions, and eliminating intersections at grade, was accepted by the general public as the logical answer.

The long-range plan is for 163 miles of freeways to loosen traffic to and from population centers and the major traffic generators. The immediate goal

Los Angeles' Freeways Rushed to Cope with Traffic Problem

- 15 Miles of 163-Mile Goal Now in Operation
- Urban Area Has Most Autos Per Capita in U. S.

is to speed cross-town travel by diverting the traffic away from the crowded downtown and Hollywood areas.

Although the proposed system will not exceed one per cent of present street mileage, it is expected to carry possibly as much as 50 per cent of the total vehicle miles. In addition, Los Angeles' much-criticized accident rate is expected to decrease substantially.

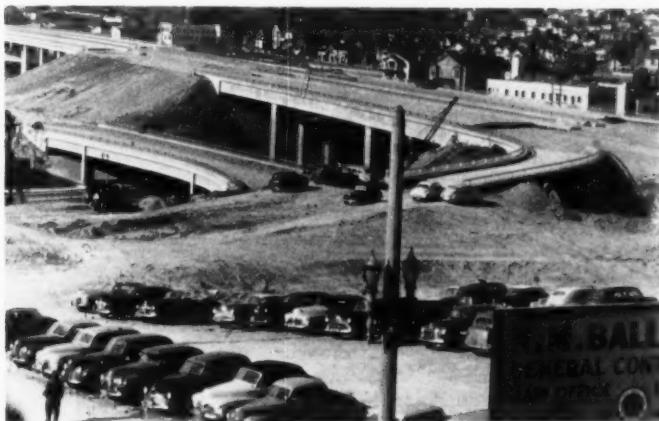
In operation now are about 15 miles of freeway which accommodate more than 85,000 vehicles daily, and by mid-1952 more than 35 miles are expected to be open.

Immediate plans call for two main arteries: One from the San Fernando Valley through the Hollywood and downtown areas to Santa Ana and San Bernardino, and the other from Pasadena to Long Beach and San Pedro



FairWest Photo

Most complicated of 33 separation structures on $3\frac{1}{2}$ -mile Hollywood Freeway is four-level junction with Santa Ana, Arroyo-Seco and Harbor Freeways, to cost \$1,065,654 exclusive of right-of-way. James I. Barnes Construction Co., Inc., A.G.C., Santa Monica, is contractor. Total cost of stretch will be \$19 $\frac{1}{2}$ million.



Section at Hope Street near four-level system in grading stage. Right-of-way for Hollywood Freeway required purchase of 810 parcels of real estate, moving 9,200 people from their homes, but without a single eviction.

and through the downtown section. The two will connect near Los Angeles' Civic Center and will provide rapid transportation for more than half a million people.

Plan Two Years Ahead

Future routes will extend to the Santa Monica and other coastal areas, the municipal airport in Inglewood, and also to Burbank, Glendale and Alhambra. The complete network of freeways will join every business district, suburb and outlying area so that the highway system will keep up with the population growth and provide rapid, safe transportation for the entire Los Angeles area.

Major problems in accomplishing a project of this kind in a city of more than two million population is land acquisition and the actual routing of the express highways.

The California Division of Highways, in conjunction with the citypraisers and the purchasing department, the city planment acquire land far enough in advance, commission, and other civics for the engineers to be two years groups, determines the course of the head of the construction crews.



Work on underpass of Santa Ana Freeway by J. E. Haddock, Ltd., A.G.C., Pasadena, is hampered by water seepage, oil deposits and dense blue clay.

Underground Construction Co., A.G.C., Oakland, completing drain pipe installation; N. M. Ball Sons, A.G.C., Berkeley, prime contractor. California Division of Highways reports: "Simple, clean-cut design with smooth horizontal lines, freedom from filigree decoration, and standardized details are among features that attract low bids from contractors."

\$928 Million in Airport Projects Needed

• CAA Lists 5,093 Locations for Development in Next 3 Years

» THE 1950 national airport plan, released last month by Civil Aeronautics Administrator D. W. Rentzel, lists 5,093 locations where airport construction or development projects are considered necessary during the next three years.

This is the fourth annual revision of the national plan for a system of public airports as required under the Federal Airport Act of 1946. While no funds are assured by the inclusion of a location in the plan, those locations where greatest needs are indicated will be included in the coming fiscal year construction program on

the basis of appropriations to be made.

CAA estimated total cost of the three-year program at \$928,033,000 divided almost evenly between the Federal Government and the sponsors.

Of the total locations, 129 are in the territories; 2,316 are for improvement of existing airports, and 2,777 are for completely new fields.

The classes selected are as follows:

Class I airports—2,463, of which 1,818 would be new, and 617 for improvement.

Class II—1,078, of which 440 are new, and 638 for improvement.

Class III—597, of which 143 would

be new, and 454 for improvement.

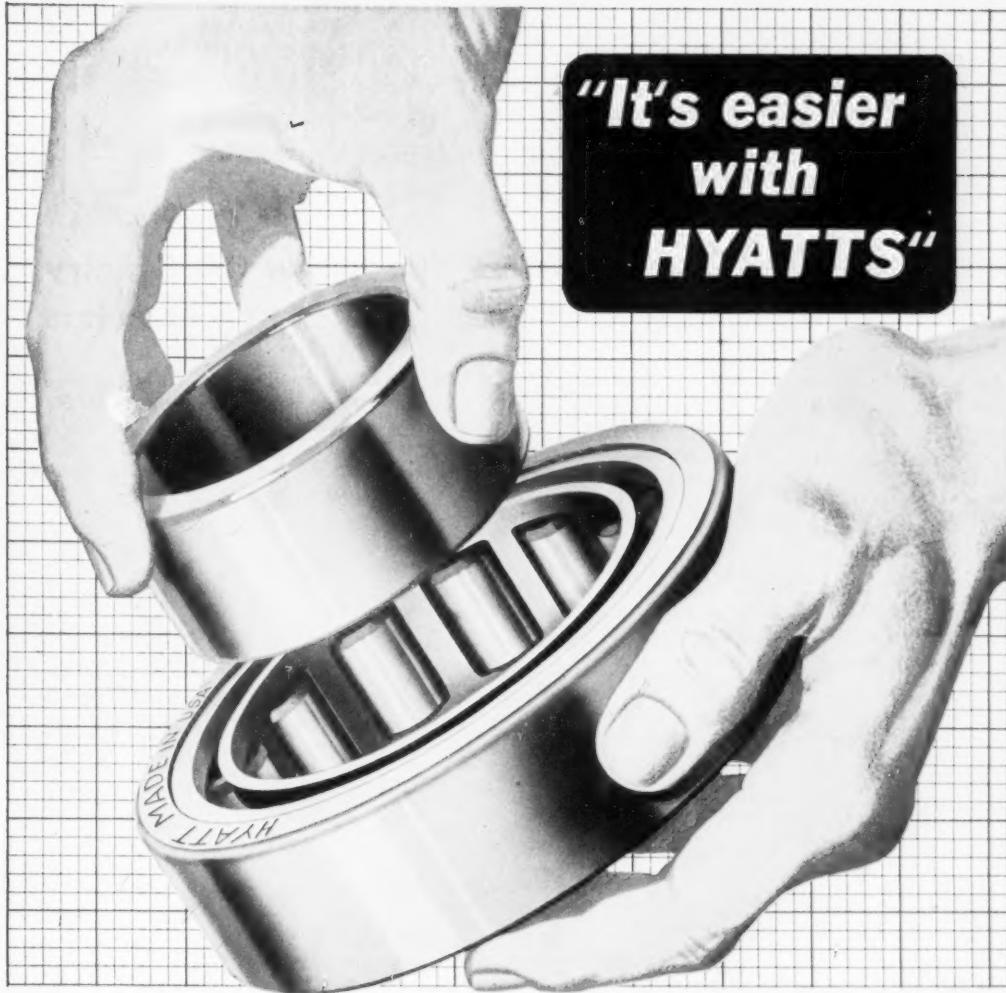
Class IV and larger—575, of which 25 are new, and 550 to be improved.

In addition, 312 seaplane bases and 66 heliports are listed.

A.A.S.H.O. Highway Manual

A new publication, "Manual of Highway Construction Practices and Methods," has been published by the American Association of State Highway Officials.

Prepared under the jurisdiction of the association's Operating Committee on Construction, the 184-page book is available from the A.A.S.H.O., 1220 National Press Building, Washington 4, D. C., at \$2.50, paper back edition.



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HYATTS"**

BY VIRTUE of their interchangeable parts—as this photograph of a Hyatt Hy-Load Roller Bearing shows—we make it easier for the machine builder to install Hyatts without selective fitting.

And should it ever be necessary to replace a Hyatt Roller Bearing in the field the same ease with which they can be handled is an advantage worth considering by the user.

But ease of assembly and disassembly is only part of the story. Add to this easier machine operation, design simplification and longer life with Hyatts and there's your answer to why they are the preferred bearings for the heavy duty equipment of all types. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey, Chicago, Detroit, Pittsburgh and Oakland, California.

HYATT ROLLER BEARINGS

CHAMPION of

**Contractors and Operators throughout the Country
Proclaim the New TD-24 CHAMPION of Crawlers**

The International TD-24 has proved itself CHAMPION of Crawlers. On job after job, the new TD-24 has won the admiration of operators for the ease with which it does work which other tractors cannot do. Contractor-owners are equally enthusiastic, for they see the TD-24 outworking and out-producing every other tractor in the field.

Greater power, and the weight and traction to match, plus new operator convenience and ease of control, give the TD-24 much more than an edge over any other tractor you might name.

Experienced operators and owners have this to say about the new TD-24: (names on request)

"In my estimation the TD-24 is the heavyweight champion of crawler tractors."

"The TD-24 works right along on slopes so steep we have to cut them down before other tractors can even navigate unloaded. TD-24's are fast tractors, easy to shift and have plenty of power. This combination really moves dirt . . . made us more money than any other tractor could."

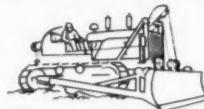
"The TD-24 is a wonderful piece of machinery and I can't say enough for it. Our operators feel they are wasting their time when they run other tractors, for no other tractor built can compare with the work these TD-24's can do."

Visit your International Industrial Power Distributor and see what the TD-24 can do for you. You'll agree it's the CHAMPION of Crawlers—the one tractor you can't afford to be without, for profitable earthmoving.

INTERNATIONAL HARVESTER COMPANY
Chicago

JOB FOREMAN REPORTS SAVINGS

"It (the TD-24) is definitely out hauling every other tractor on the job," says the foreman on this 247,-000-yard stadium bowl job in Maryland. "It will do so much work that we are sure our job costs will show a great saving."



Crawlers

"Worth Two of Any Other Heavy Tractor," says Lindsey Belville, president of Greasy Ridge Coal Co., Greasy Ridge, Ohio, strip mine. "This is the best tractor I've ever used in my five years experience," says Warren Bare, the tractor operator shown working it in heavy rock. "It is the only one that will do everything I want it to," he claims.



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on Power
that Pays



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CRAWLER TRACTORS • WHEEL TRACTORS • DIESEL ENGINES • POWER UNITS



Atomic Energy Construction: Bidding and Awarding Practices

- Guide for Contracting for One of Biggest Programs

By William K. Maher

Chief, Construction-Engineering Branch, Division of Production, Atomic Energy Commission

» THE AEC construction program, in addition to being the largest single integrated construction effort ever undertaken during peacetime within the United States, is indeed the most varied. There have been completed, are under way, or are planned, facilities which range from the simplest of community facilities to the most complex production and research facilities conceived to date.

There is no question but that the size and scope of this operation commands the interest and attention of the entire construction and engineering fraternity. Unfortunately, many members of this fraternity do not know or are laboring under a misapprehension as to the Commission's methods of contracting. Inasmuch as the Commission has requested funds from Congress sufficient to undertake a program requiring about \$410 million in expenditures during the next fiscal year, we of the Commission feel that we must do everything to correct any misinterpretation and supply all possible information that will be useful to the construction industry. We believe this because we are firmly convinced that the greater the interest shown by contractors in performing work for our agency, the greater will be the value received for the dollars expended on the Commission's very large construction program.

With this in mind, I would like to outline a few of the policies, practices and procedures established or followed by the Commission in contracting for engineering and construction work.

Agents Not Necessary

Initially, I believe it is very necessary for the interested contractor to know that he need not employ agents, counselors, advisors, or any agency on a commercial basis in order to obtain Commission business. Such persons or agents cannot obtain business for the potential contractor which he cannot obtain himself through government channels. These channels are quite different within the Commission

from those the contractor may be familiar with in other government agencies such as the Corps of Engineers and the Bureau of Yards and Docks, which generally function through centralized control in the awarding and administering of contracts.

AEC contracts for construction and architect-engineer services normally are made and administered under general Atomic Energy Commission policies through our eight field operations offices. Some of the work is performed by subcontractors to prime operating contractors, (such as the General Electric Company at Richland, Washington), with whom the Commission has a contract to design, construct and operate a particular facility or by subcontractors to general construction contractors.

AEC's Contracting Policies

Briefly, the AEC's contracting policies are:—

1. To the fullest extent feasible, to make construction contracts on a lump-sum or unit-price basis, using formal advertising procedures.
2. Where formal advertising cannot be used, to obtain as full and free competition as is feasible to secure the required services.
3. To make special efforts to place contracts with small business concerns competent to perform satisfactorily.
4. To negotiate architect-engineer contracts, generally on a lump-sum basis, but on a cost-plus-a-fixed-fee basis when adequate scope information cannot be furnished.
5. Not to award contracts to firms disqualified by reason of failure to comply with the provisions of the Davis-Bacon Act.
6. Not to award the cost-plus-a-percentage-of-cost type of contract.

Formal Advertising for Construction

In the general practice of letting work by formal advertising, bids are solicited from all qualified contractors to assure full and free competition consistent with obtaining the required



William K. Maher

construction services. While the detailed procedures may vary somewhat for each office, the general procedures outlined below are followed by each operations office in letting contracts through formal advertising:—

Solicitation of Bids

1. *Contents of Invitation.* Normally contains details concerning the time, place and special requirements pertinent to submission of a bid.

2. *Information Furnished.* Drawings, specifications, forms of contract, time for commencement and completion of work, and other data necessary for bidders' information are furnished interested bidders upon request.

3. *Contacting Bidders.* The bid solicitation is mailed or delivered to each prospective bidder from a list, classified by type of work, maintained by each operations office. The list is intended to afford as broad a coverage of contractors as is reasonably possible, and every effort is made to include small concerns.

4. *Publicizing of Invitation.* To obtain the widest freedom of competition without resorting to paid advertisements, copies of the form used in bid solicitation are filled out and displayed at appropriate places such as post offices. In addition, a brief announcement of construction work proposed to be let may be made available for free publication to newspapers, trade journals, or other publications which inform contractors of proposed construction work.

5. *Issuance of Changes in Bid Information.* Changes in information

supplied to prospective bidders and interpretations and explanations are issued in the form or written addenda to all prospective bidders.

Submission and Withdrawal of Bids

Bids must be submitted on the appropriate bid form, and neither telegraphic nor alternate bids are considered unless authorized by the invitation for bids. Bids may be modified or withdrawn at any time by written or telegraphic notice received prior to the time fixed for bid opening.

Opening of Bids and Award

1. *Security of Bid Information.* All formal bids received prior to the time of opening are kept secure and unopened until the time of opening, when they are read aloud by the designated official.

2. *Abstract for Inspection.* An abstract of bidders and prices is made available for public inspection.

3. *Rejection of Bids.* Any bid may be rejected which does not conform to the essential requirements of the invitation for bids. All bids may be rejected when (a) rejection is in the interest of the Government, or (b) it is found that the bids are not reasonable, or were not independently arrived at in open competition, or are collusive, or were submitted in bad faith.

4. *Award of Contract.* Award is made with reasonable promptness by written notice to the responsible bidder whose bid, conforming to the invitation, will be most advantageous to the Government—price, previous estimates, and other factors considered.

5. *Successful Bidder's Name.* To the extent reasonable and practicable and consistent with security regulations, any bidder upon proper inquiry may receive the name of the successful bidder and the bid amount.

Without Formal Advertising

The nature of certain work performed by the Commission will not permit formal advertising.

In anticipation of these cases, it is necessary for construction contractors and architect-engineers desiring to be considered for these types of work to advise the Commission's representatives at its eight field offices of their interest.

The communication, which may be in the form of a letter or brochure, should include the following information:

- (1) History and background of

firm; (2) brief description of education and experience of key personnel; (3) number of qualified key personnel available for assignment to any given project; (4) volume and types of work in previous years, and extent of present commitments; (5) past record in performance of work for the Commission or other government agencies; (6) financial statement, if available; (7) size of job geared to handle; and (8) minimum dollar value that will be considered.

Copy of this information should be furnished the Construction-Engineering Branch, U.S.A.E.C., Washington 25, D. C. for reference purposes.

A contract board at each operations office makes recommendations to the Manager regarding selection of firms for negotiated contracts, the negotiation of fees and other substantive provisions of negotiated contracts, and regarding the formulation of recommendations on other difficult contract problems.

Invited Bids for Fixed Price Construction

In general, the procedures followed in letting a contract by invited bids is similar to the formal advertising procedure, with the objective to obtain as full and free competition as is feasible under the circumstances.

The invited bid system is used when (a) formal advertising is not feasible and (b) adequate information is available for the solicitation of bids.

No notices of proposed work in this category are posted in public places or given in trade journals or newspapers, but efforts are made to obtain bids from as many qualified contractors as possible.

While no formal bid opening is held the same general procedure of award is followed as in formal advertised bid procedure.

In order to bring this information concerning its contracting policies, practices and procedures to the attention of all interested engineers and constructors, the AEC has issued a booklet, "A Guide for Contracting of Construction and Related Engineering Services," containing the information given here in greater detail. It may be obtained from the Government Printing Office, Washington 25, D.C., at 10¢ per copy.

Negotiation for Fixed Price Construction Work

Sometimes construction contracts are let on a fixed price basis without either formal advertising or invited bids.

This negotiated type of contract is used when (a) only one bid has been received after formal advertising or invited bids; (b) there is only one source for the furnishing of the construction services or (c) no responsive bid has been received from a responsible bidder after formal advertising or invited bids, and the Commission's representative has satisfied himself that a fixed price contract at the price negotiated is in the interests of the Government.

Cost-Plus-a-Fixed-Fee Contracts and Lump-Sum Architect-Engineer Contracts

The procedure in selecting an architect-engineer for either lump-sum or cost-plus-a-fixed-fee work and a construction contractor for cost-plus-a-fixed-fee work is largely similar.

The cost-plus-a-fixed-fee contract provides for payment of all the contractor's allowable costs as defined in the contract; establishes an estimate of the total cost; and provides for payment of a fixed fee which does not vary with the actual cost, but is adjusted only in the event a material change in scope or character of the work is ordered by the Commission or its operating contractor.

The objective is to give consideration to as many firms within practical limits as may offer possible qualifications for performance of the work. This is attained from an analysis of the requirements of the work and available information as to firms possibly meeting these requirements.

1. *Screening of Firms.* Additional data are developed through information supplied by the firms, inspection of the firm's facilities and other sources to screen them and to determine the firm best qualified to perform the work.

Factors which are developed consist of: (1) reputation and standing of the firm and its principal members in performance of the contemplated type of work; (2) past record in working for the Commission, and if available, for other government agencies; (3) adequacy of any necessary home office facilities; (4) volume of work of the firm in previous years, and extent to which the firm is currently engaged in other work; (5) ability to assign an adequate number of qualified key

personnel, including resident representatives having considerable experience in responsible positions on work of a similar nature; (6) additional management qualifications such as record in labor relations, safety record, and adequacy of accounting system; (7) ability of the firm to perform a major portion of the work with its own forces; (8) ability of the firm to furnish or to obtain adequate construction plant and to procure required material and equipment; (9) financial resource and (10) geographical location of home office and familiarity with the locality in which the project is located.

2. Description of Work. Prior to negotiations of a CPFF contract for either architect-engineer or construction services, or a lump sum contract for architect-engineer services, a statement is developed containing a sufficiently detailed description of the work to permit the degree of complexity of its principal components to be evaluated adequately and the estimated cost of the component items to be determined insofar as applicable.

Another statement is developed which discloses (a) total estimated cost of the construction work exclusive of any contractor's fee, showing separately any amount included for contingencies and (b) estimated time for completion of design or construction work.

3. Procedure in Negotiations. First step in negotiating the contract after selection of the architect-engineer or contractor is the exchange of essential information between the Commission and the contractor.

A contractor is given an opportunity to acquaint himself, if he has not already done so during the selection process, with the details of the proposed project, including the location, type of construction, the numbers and classes of structures, time allowed for design and construction, and the estimated cost.

He also is given an opportunity to review the form of contract, to learn the security requirements under which he will be operating, to be advised of timing of any necessary security clearances, and to familiarize himself with AEC procedures in administering the contract.

The Commission's policy and practices on wage and salary administration are explained to him. In turn, the contractor furnishes information to the Commission's representatives as to the organization to be used on the

work, present and proposed salaries, and other items necessary for preparation of the appendix to the contract. A constructor also furnishes information as to contractor-owned construction plant to be utilized on the work, showing its purchase price; work to be subcontracted; and other similar information in order that the contract may be properly handled.

When this information has been obtained, reviewed and revised to the extent found necessary, and a mutually

acceptable estimate of the cost and time of performance agreed to, the fixed fee is negotiated. Then the formal contract is prepared and executed.

In unusual cases, the contractor may be authorized to proceed with the work prior to final execution of the formal contract by the execution of a letter agreement (informal contract). This agreement contains the essential items agreed upon during the negotiations. Execution of the formal contract follows at the earliest practicable date.

Atomic Energy Operations Offices

Manager	AEC Field Division Directors	Principal Operating Contractor
A. TAMMARIO, Manager, Chicago Operations, U. S. Atomic Energy Comm., P. O. Box 6140-A, Chicago 80, Ill.	J. E. ARMSTRONG, Director, Division of Engineering.	University of Chi- cago (Argonne National Labora- tory).
*DAVID F. SHAW, Manager, Hanford Operations, U. S. Atomic Energy Comm., P. O. Box 550, Richland, Wash.	RAYMOND W. STUCK, Chief Engineer, Of- fice of Engineering and Construction.	General Electric Co.
L. E. JOHNSTON, Manager, Idaho Operations, U. S. Atomic Energy Comm., P. O. Box 1221, Idaho Falls, Idaho.	ALLAN C. JOHNSON, Chief, Engineering and Construction Division.	None.
W. E. KELLEY, Manager, New York Operations, U. S. Atomic Energy Comm., P. O. Box 30, Ansonia St., New York 23, N. Y.	GEORGE L. RYAN, Di- rector, Staff Engi- neering Division.	Associated Univer- sities, Inc. (Brookhaven Na- tional Labora- tory).
R. W. COOK, Manager, Oak Ridge Operations, U. S. Atomic Energy Comm., P. O. Box E, Oak Ridge, Tenn.	K. E. DUNBAR, Director of Production and Engineering.	Carbide and Car- bon Chemicals Corp. and Mon- santo Chemical Co.
CARROLL L. TYLER, Manager, Santa Fe Operations, U. S. Atomic Energy Comm., P. O. Box 1539, Los Alamos, N. Mex.	REUBEN E. COLE, Di- rector, Office of Engineering - Construction.	University of Cali- fornia and Sandia Corp.
JAMES C. STEWART, Manager, Schenectady Operations, U. S. Atomic Energy Comm., P. O. Box 1069, Schenectady, N. Y.	SAMUEL T. WHITE- HEAD, Chief, Con- struction and Engi- neering Division.	General Electric Co.
JESSE C. JOHNSON, Manager, Raw Materials Operations, U. S. Atomic Energy Comm., Washington 25, D. C.	GEORGE G. GALLA- GHER, Deputy As- sistant Manager, Domestic Procure- ment.	None.

* On engineering and construction matters, address the following: Manager, Design and Construction Divisions, General Electric Nucleonics Project, Richland, Wash.

**Developed by three years of research . . . and now refined by
tens of millions of dollars' worth of new equipment!**

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Today's new cars have the most powerful engines ever made. AND—

They require a super, anti-knock gasoline.

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So no matter what model you drive, get a tankful of the *new* No-Nox today.

See for yourself what a difference it makes!

*Whisper-Quiet, Knock-Free Power!
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Terrific Power in Every Drop!



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—is now better than ever, too!

Gulf Oil Corporation • Gulf Refining Company

British Impressed by Speed, Low Cost of U. S. Building

- Cite Coordination of Work by General Contractor
- Team Work, Collaboration on Job Important Factors
- Workmen Found Proud to Be Members of U.S. Industry

(First of two articles on the report of the British Building Industry Productivity Team.)

» THE SPEED and low cost of American construction methods were particularly impressive to the British Building Industry Productivity Team which visited parts of this country last summer.

Coordination of the work by the general contractor, and a spirit of collaboration on the job inspired by the driving force of the general contractor were factors discussed by the team in its comprehensive report which was published last month.

See Editorial

—Page 21

The team made the visit under auspices of the Anglo-American Council on productivity, with financing by the Economic Cooperation Administration. The American Institute of Architects and The Associated General Contractors of America and their local chapters were among groups which assisted the team in its work, as well as the American Federation of Labor and National Association of Home Builders.

The committee stated in its conclusions:

"The great speed of American constructional jobs and their low cost—in relation to the average rate of wages—must make an extremely strong impression upon any observer, and in this report we have examined the main psychological, organizational and technical differences between the British and American building industries with the object of isolating the factors which make for high productivity in the United States."

"In our opinion, the most important, but not the only, factors are:

- 1. The complete pre-planning of the job by building owner, architect and contractor.
- 2. The proper coordination of subcontractors' work and the effective collaboration between them and the general contractor.

"3. The adequacy of supplies of labor and materials and the absence of restricting controls.

"4. The general availability and use of mechanical aids.

"5. The recognition of the importance of continuous research into the production of materials and into building techniques.

"6. The nation-wide stimulus of the American industrial climate, which has a great effect on the output of every individual and which is shared by all members of the building industry."

Force of General Contractor

"The last reason, which may be termed the psychological factor, is perhaps the most important of all. Acceptance of the need for high productivity as an essential factor in industrial life is universal in America, and it permeates the will and action of the operatives as well as of the professional and employer groups.

"The attitude of the individual toward his work must, in an industry like building, which depends so much on individual effort, be vital. At the same time, consciousness of forming part of a well-organized team moving at high speed, has a definite effect upon productivity. There appears to be a real community of interest between all sections of the industry based upon the realization of full interdependence.

"Competition exists in full measure, but, once a job is started, the spirit of collaboration, inspired by the driving force of the general contractor, can be relied upon to secure the desired results."

Initiative of Workmen

"The fact that output in the building industry is so much higher in America than in Britain is not due only to the better organization which has been developed and the natural advantages that are enjoyed.

"It depends, too, to a great extent, upon the keenness and initiative of

the individual workman, who is proud to be a member of the building industry and anxious by his efforts to maintain the status in society and the standard of living he derives from it.

"He takes an interest in the job as a whole, and not merely in his own particular operation, and cooperates wholeheartedly with his employer and the other workmen. Changes in site organization, where these are necessary to raise output, are readily accepted, and he willingly assists in the development of new methods and techniques."

British Need for Productivity

"The high standard of living enjoyed by the American building worker depends entirely upon the efficiency and productivity of the industry. The individual workman knows that his place in the industry can only be maintained by his personal productivity and efficiency, just as high wage rates in the industry can only be sustained by collective activity.

"Here, too, the British operative must realize that his standard of living is just as closely linked to the efficiency of the industry and depends upon the personal contribution he is prepared to make towards it. Present living standards, low as they are compared with those in America, are in danger unless each and every member of the industry plays his part in eliminating waste of effort, improving organization, and building up a high rate of productivity."

Cooperation

"American experience confirms, indeed emphasizes, the inter-dependence of all sections of the industry and the need for a closer partnership between them in the real sense, expressed in greater individual effort as part of a team.

"Even if architects plan better, contractors organize better, subcontractors cooperate better, and operatives produce more, the maximum efficiency will not be secured unless each, in his individual capacity, makes the necessary effort simultaneously and cooperatively."

The team was composed of two architects, two quantity surveyors, five general building contractors, one specialist subcontractor, and five labor representatives.

(NEXT MONTH: Additional sections of the report will indicate what the British found most interesting about American building construction.)

NEW and Heavy-Duty Engineered TO SAVE YOU MONEY



Whether you haul by the yard or by the ton

You get lower-cost performance, more miles of trouble-free hauling, and longer life from every new International Truck because every new International Truck is HEAVY-DUTY ENGINEERED.

Proof of this statement boils down to this:

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You get new comfort and driving ease in the "roomiest cab on the road." Step into the Comfo-Vision Cab

and discover how much more "move-around room" there is in the "roomiest cab on the road." Note how easy it is to adjust the wide seat to just the right position.

Look out through the one-piece, scientifically curved Sweepsight windshield. Place your hands right where they feel natural for driving—and you'll find them gripped around the sturdy steering wheel. And just wait till you start going—you'll enjoy more positive control... thanks to new Super-steering.

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International Harvester Builds McCormick Farm Equipment and Farmall
Tractors... Motor Trucks... Industrial Power... Refrigerators and Freezers

Tune in James Melton and "Harvest of Stars"—NBC, Sunday afternoons



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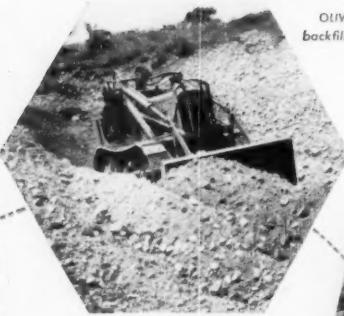
INTERNATIONAL TRUCKS

INTERNATIONAL HARVESTER COMPANY CHICAGO

OLIVER HG Crawler Tractor
with Ware Loader loading
sand into truck.



OLIVER HG Crawler Tractor with Ware
backfiller blade attached to shovel arms.



OLIVER Model "88"
Wheel Tractor with Ware Boom
handling cast iron pipe.

...take the "Load" out of Your Loading Problems!

Whatever your loading problem, the easy, economical answer is an Oliver Crawler Tractor or Oliver Industrial Wheel Tractor and Ware Front-End Loader.

These powerful tractors and the hydraulically operated loaders are easy to operate . . . easy on maintenance and operating costs. Lift and bucket are hydraulically controlled. Hydraulic control of bucket assures greater breaking-out action and full loads . . . prevents wasteful spillage. "Midsection" pivot allows longer reach of dumping position and distributes the weight advantageously over the tractor frame to minimize strain. The hydraulic rams are designed to take most of the shock loads, assuring longer life for both tractor and loader.

And, the tractor-loader unit can be quickly converted to backfiller, boom or lifting fork. Special buckets are available for coal, snow or humus loading. The hydraulic system can be used to power other equipment such as mowers, sweepers, etc., in combination with the loader. For all the facts, see your local Oliver Industrial Distributor, or write direct to:



OLIVER Model "88" Wheel Tractor and
Ware Loader loading out gravel.



OLIVER HG Crawler Tractor
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on ditching job.

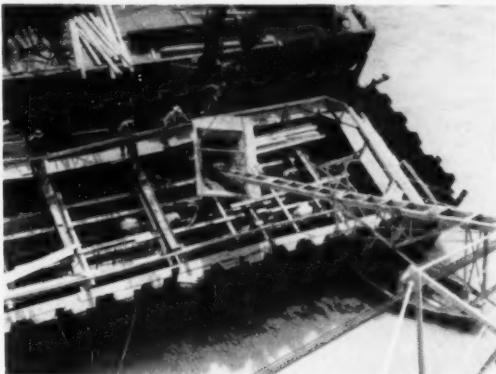
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Industrial Division: 19300 Euclid Avenue, Cleveland 17, Ohio
A complete line of Industrial Wheel and Crawler Tractors



"THE SIGN OF
EXTRA SERVICE"

CONSTRUCTION SAFETY IN ACTION: Housekeeping



Photos from A.G.C. Manual of Accident Prevention in Construction

Good housekeeping, according to the *A.G.C. Manual of Accident Prevention in Construction*, is the first law of accident prevention, and should be a primary concern of all superintendents and foremen.

At left above is shown an example

of poor housekeeping. Excavation is not adequately covered, planking is unfastened, and loose hose and debris present dangerous tripping hazards even in good weather conditions. Note, in addition, the snow and ice on the loose planks.

At right is pictured an example of good housekeeping on a project. Special attention has been given to general cleanliness and placing of material. Note also the handrails around the cofferdam, and the skiff ready for instant use.

Housekeeping on the Job

• A Five-Minute Safety Talk for Construction Foremen

By Vincent B. Smith

simple enough. If we don't follow those two rules, we let ourselves in for trouble.

Putting the rules to work is not so simple. A grand clean-up once a week won't do the trick. Housekeeping is a job that can't be put off. We have to do the picking up and the putting in place every hour of the shift. It's up to each man to be his own job housekeeper.

When you see something lying around where it could trip a man or fall on him, put it in a safe place. Don't wait for another fellow to do it, even though he's the man who left it there. If it's something that he'll be looking for, you can put it safely by where he can see it.

You've seen jobs, and probably worked on some, where it wasn't safe to put your foot down without first looking twice to be sure you weren't going to twist an ankle or run a nail through your shoe. A job like that is poorly run, badly managed. Probably

it's losing money as well as causing accidents.

Here, we're all trying to do better. Some of the men have special clean-up jobs assigned to them. But they can't do it all, and they aren't supposed to. Every man on the job is handling certain tools and materials, and so far as those tools and materials are concerned, he's responsible for the housekeeping.

This job has walkways, aisles, stairs, and ladders by which you get from one place to another. It's particularly important that those lines of travel be kept safe and clear of loose objects. Men often carry loads on those routes. They can't always pick their steps or look around to be sure that nothing is going to trip them or fall on them.

A wet or greasy walkway or scaffold can cause a bad accident. If you see a treacherous spot, make it your business to do some sweeping, mopping or scraping.

(Editor's Note: The following 5-minute safety talk is from "Safety Talks for Construction and Maintenance Foremen," prepared by members of the Executive Committee, Construction Section, National Safety Council. Copies of the book containing all 58 talks may be obtained from N.S.C. headquarters, 425 N. Michigan Ave., Chicago 11, Illinois, for \$1.50 each.)

» **YOU CAN TELL** pretty well how safe a job is just by looking at it, before you ever start to work on it. Even a "sidewalk superintendent" can tell.

A job that looks clean, with everything in its place, is a safe job. That's all we mean when we talk about job housekeeping.

Good housekeeping calls for just two things. Try to remember them.

First, keep trash and loose objects picked up and disposed of. I'll tell you where the loose stuff is to go.

Second, pile all materials and park all tools and equipment in the places where they belong. I'll see that all of you know just where those places are.

Those are the fundamentals of good housekeeping, fellows, and they're

Brick, tile, pipe, steel rods, and similar materials scattered about the job or insecurely piled on scaffolds or platforms can cause mean accidents. All material should be piled in the place set aside for it.

Each kind of material has its own characteristics. But some rules for piling apply to all kinds.

First, you have to consider how the material is going to be taken out of the pile. If it's going to be a fast-moving operation, with a big tonnage being loaded in a short time, be sure to leave space for the men and the equipment that will have to do the work.

Never pile material in such a way that it will endanger a man who has to work on it or will make a back-breaking job for the man who breaks down the pile.

Other points you have to think about are:

1. The strength of the support, if you're piling material on a floor, platform, or scaffold.
2. The stability of the ground, if you're piling a heavy load.
3. The height of the pile, so it won't topple.
4. The need for building racks, if it's pipe or rods you have to stock.
5. The wisdom of waiting for the proper equipment to handle structural steel and other heavy material instead of trying to "strong arm" the stuff.

Inspection of job tools comes under good housekeeping. Use of worn or broken tools is a plain invitation to accidents. As part of good housekeeping practice, take a second look at the sledges, wrenches, and hand shovels, and discard those that aren't safe!

When tools aren't in use, store them in the proper places.

You've heard a lot about the danger of projecting nails. Because nail punctures are particularly likely to become infected, they can lead to lock-jaw.

Bending nails or removing them takes time. A man who's opening a keg or stripping small forms may not want to put the extra time into that small bit of work. But on this job we consider it time well spent. Draw the nails from kegs or turn the points down so they can't catch a man's hand. Pull the nails from lumber.

We all know the value of good lighting in job housekeeping. Poor lighting and accidents go together. This

job has lights at the places where they're needed, but sometimes the lamps aren't burning. When you find a light out, get a replacement.

It's not hard to keep a job clean if all useless materials, boxes, scrap lumber, and other trash are picked up and removed regularly. Remember, if they're allowed to accumulate for even a few days, the job becomes a messy and unsafe place to work. Let's keep it clean.

AEC Safety Winners

The Merritt-Chapman & Scott Corporation, A.G.C., of New York City, was winner of the construction contracts division award in the 1949 Atomic Energy Commission safety contest. The company was contractor for apartment building construction, and improved its accident record 69 per cent in 1949. Skidmore, Owings and Merrill, architect-engineer, was another winner, reporting no injuries.

Accidents Cost U. S. Millions

Accidents in 1949 cost the Federal Government \$155 million, Secretary of Labor Tobin told the Federal Inter-departmental Safety Council in Washington, D. C., last month.

He said the toll among military personnel was 2,004 fatalities and 50,217 disabling injuries, costing \$38,338,311; and among civilians, 253 fatalities and 41,642 disabling injuries, costing \$16 million. As of March 1950, the Government was paying benefits to 3,870 widows, 5,667 children, and 2,578 other dependents of federal employees killed in line of duty.

The \$155 million figure for 1949 was reached by adding \$60 million for damage or destruction of federal property and equipment, \$26 million in claims to private citizens for injuries and property damage by federal motor vehicles, and \$15 million in fire losses.

A Contractor's Report to His Employees:

• Koss Company Takes Steps to Avoid Accident Repetition

(Editor's Note: The Koss Construction Company, Des Moines, Iowa, gave the explanation below of why it did not win a prize in the A.G.C. Accident Prevention Contest, in the spring issue of its company publication, "The Hard Roaders Outlook." The Koss organization, while not among the winners, had a good safety record last year among highway contractors with above the average man-hour exposure, and in the 1947-48 contest won second place in that class.)

» WE REGRET to say that our safety record last season was not good enough to take a prize in the National A.G.C. Safety Contest. Actually, one accident proved our downfall in this contest.

"Here is the report on this accident, which is not printed as an alibi but as an illustration of how accidents happen and what we do to prevent a repetition:

"The accident where our finishing machine ran over a man's foot and severed his toe was one of those inexcusable acts of carelessness. The finishing machine was operating with the wheels on one side running on forms and the wheels on the other side

on the pavement edge, as is customary when constructing four-lane pavement. The injured man was employed on the side of the machine where the wheels operated on the edge of the pavement. His duty was to clean the edge of the pavement with a shovel ahead of the wheels of the finishing machine. The machine, of course, travels very slowly (about 10 feet per minute). The man apparently was looking at some distant object while his foot was in the direct path of the wheels of the oncoming finishing machine.

"Accidents of this nature would never happen to a worker who was only reasonably alert.

"Additional guards in the form of iron bars will be placed around the wheels of the finishing machines when they operate on the edge of the previously-constructed pavement. These guards are similar in design to the cowcatchers on railroad locomotives and should preclude repetition of accidents of this nature.

"We are glad to say, however, that our record in Kansas was tops among the contractors there, and KCC was awarded first place in Class A in the contest conducted by the Kansas Contractors Association (A.G.C.)."

To the men
who build

Eliminating Deep Pockets of Concrete
Between Joists IS Important

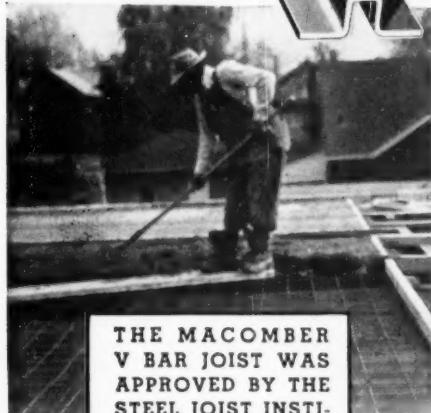


FOR SPANS 4 TO 40 FEET

MACOMBER NAILABLE

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NAILING top lath to Macomber V Bar Joists saves time, labor and material. Competitive conditions today make these savings worthy of careful investigation.

When top lath is nailed into the steel top chord of the V Joist by driving a staple or roofing nail over the rib or mesh, a solid anchorage is the result.

In place of a specified 2" slab sagging between joists to a 4" slab, you have only a very slight deflection between joists due to the solid anchorage of nailing compared to wiring or clipping top lath.

While nailing is faster than other methods, the big saving is in the amount of concrete saved per square yard of floor area. These economies in both labor and materials can be the difference between profitable and dangerously close operation at today's close bids.

Any architect who specifies Macomber Nailable V Joists and the contractor who installs them will safeguard profits forever after with the one steel joist that costs no more but saves so much on every job. Send for V Joist catalog.

STANDARDIZED STEEL BUILDING PRODUCTS

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IN CANADA, SARNIA BRIDGE CO., LIMITED, SARNIA, ONT.
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V BAR JOISTS • LONGSPAN • BOWSTRING TRUSSES • STEEL DECK



Vanilla or

You get the best of both with

There is a size and
type of Cedarapids aggregate
producing plant for
every job. Send for catalogs.

Bulletin MT — Master Tandem
Bulletin Unit-2 — Unitized Plant
Bulletin JT-3 — Junior Tandem
Bulletin PS-1 — Pitmaster
Bulletin Rock-1 — Rock-It
Bulletin SPP-1 — Single Pass
Bulletin Hawk-1 — Hawkeye

Cedarapids

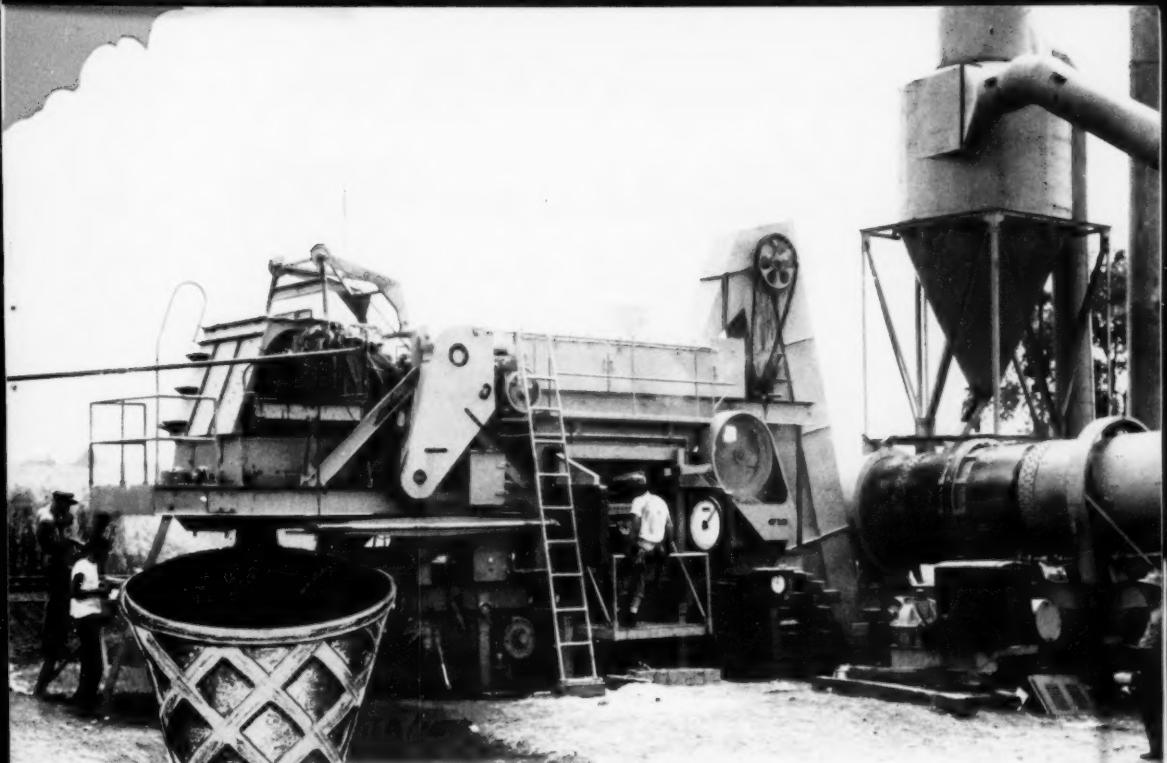
Built by
IOWA

WHETHER you use your aggregate as just plain vanilla aggregate or chocolate covered for black top, you'll be way ahead if you produce it with Cedarapids equipment.

The Junior Tandem, illustrated, is the leader of the long line of Cedarapids portable crushing and screening plants known everywhere for big volume production, low operating costs and minimum maintenance. Smooth, balanced coordination of screens, crushers and conveyors . . . quick adaptation to a wide variety of jobs . . . fast, easy set-up and take-down—all add up to more profitable operation—50 tons an hour, 250 or more—crushed gravel, aglime or roadstone—whatever the specifications or volume—your Cedarapids distributor has the plant to fit your needs. See him today.

THE IOWA LINE of Material Handling Equipment Includes:

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• UNITIZED ROCK AND GRAVEL PLANTS • FEEDERS • TRAPS • PORTABLE POWER CONVEYORS • PORTABLE STONE AND GRAVEL PLANTS • REDUCTION CRUSHERS • BATCH TYPE AND VOLUMETRIC TYPE ASPHALT PLANTS • HAMMERMILLS • DRAG SCRAPER TANKS • WASHING PLANTS • SOIL COMPACTION UNITS • STEEL TRUCKS AND TRAILERS • KUBIT IMPACT BREAKERS



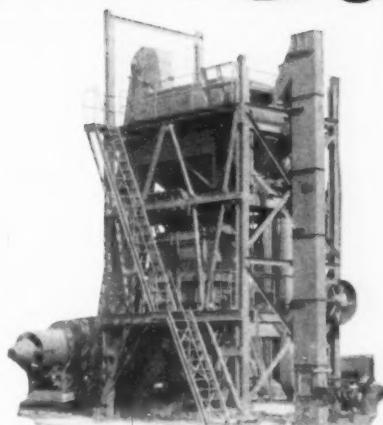
Chocolate?

Cedarapids Equipment

A CEDARAPIDS bituminous mixing plant is just the thing to chocolate mix your aggregate for low cost black top.

The mix from the Model FA, shown above, will meet the strictest specifications as well as your own demands for low cost. The FA is our most portable batch type plant but its 25 cu. ft. pugmill assures plenty of capacity for handling most of your jobs.

On all Cedarapids plants, perfectly matched screens, batchers, pugmills, elevators and driers provide a smooth, steady flow of thoroughly mixed batches. If your specifications are not too strict a Cedarapids Volumetric type plant may be the answer—either a Patchmaster or the Master Mixer. Write for bulletin today.



MODEL E—Here's the plant for your big black top jobs. Available in 2,000, 3,000, and 4,000 lb. batch sizes. They combine big volume with accurate batching, thorough mixing—low cost and easy portability. Also 1,000 lb. Model A stack-up plant. Ask for Bulletin AP-12.

IOWA MANUFACTURING COMPANY

Cedar Rapids, Iowa, U. S. A.

Decisions Affecting Construction

Reported by A.G.C. Labor Relations Staff

Wage and Hour Law

The May 8 decision of the Supreme Court (*Powell v. U. S. Cartridge Company*—18 Labor Cases 65,759)—which held that workers manufacturing munitions were covered by the federal wage and hour law—should not be construed as a conclusive indication that employees of construction contractors building the plants are so covered since recent decisions in the lower court have held to the contrary.

The recent Supreme Court decision dealt with war workers engaged in the manufacture of munitions and employed by private contractors operating government owned plants on a cost-plus-a-fixed-fee basis and held that under those circumstances they were covered by the federal wage and hour law even though the employer had contended that he was the agent of the government under a fixed-fee contract and in spite of the fact that the goods produced were munitions for war purposes.

The Sixth Circuit U. S. Court of Appeals (Ky.), however, recently held that employees of a construction company which constructed an ordnance plant for the U. S. Government were not covered by the wage and hour law. (*Cooper v. Rust Engineering Company*—18 Labor Cases 65,728). Claims were filed by a number of white collar workers engaged by the contractor in constructing a plant, the sole purpose of which was to produce explosives for the use of the United States during World War II. Unlike the U. S. Cartridge Case above, none of the claimants were engaged in the manufacture of munitions but were engaged solely in the construction of the ordnance plant.

In this case, the Circuit Court of Appeals affirmed the District Court's decision which dismissed the employees' claims and held that:

"It seems to me that had Congress intended to make construction work on buildings and plants which were to manufacture goods to be shipped in interstate commerce within the scope of the Act it would have said so. No reasoning can interpret the language of the Act to include materials used in such construction as the 'commerce' intended by Congress or that those so locally engaged were employees of one 'en-

gaged in commerce or in the production of goods for commerce'."

The Appellate Court also relied on the Supreme Court ruling in the case of *Murphy v. Reed* (15 Labor Cases 64,817) in which the Supreme Court vacated certain judgments in favor of construction employees and remanded the case to the District Court with directions to dismiss those claims involving solely construction work.

Taft-Hartley Act

Joint Liability for Unlawful Discriminatory Discharge.

The NLRB held in a recent case (*Lloyd A. Fry Roofing Company Case, Portland, Oregon*, 89 NLRB No. 93) that the owner of the plant in process of construction, together with the specialty contractor installing machinery and the A.F.L. Building and Construction Trades Council were all jointly liable for the discharge of six members of the I.A.M. whom the specialty contractor fired at the request of the A.F.L. unions and the owner.

The Board held that the pre-Taft-Hartley closed shop agreement between the Building Trades Council and the general contractor applied exclusively to the general contractor and did not apply to contracts entered into between the owner and a specialty contractor who was engaged to install certain machinery.

Invalid Union Security Clause. The NLRB recently held that a union security clause in a pre-Taft-Hartley agreement of "indefinite duration" would not bar a union's petition for a representation election. The agreement was made in 1947 and provided that it would "remain in effect until a new agreement was completed." The Board then ordered an election to determine whether the U.E.W. or I.U.E.W. represented the employees. (*P. R. Mallory and the U.E.W., C.I.O.*—35 RM 25.)

Unfair List Held Not Illegal. In the Grauman case (February, 1950 CONSTRUCTOR) the Board by some reasoning unfamiliar to construction employers held that the use of "unfair lists" was not unlawful where the union had a dispute with the employer whose name was placed on the unfair list. There the Board said:

"We do not believe that the mere placing of the name of a primary

employer on a labor organization's unfair list, whatever its psychological impact, induces and encourages employees of other employers to engage in a work stoppage within the particular meaning of Section 8(b)(4)(A) (prohibiting secondary boycotts)."

More recently the Board affirmed the Grauman case decision by holding that a Building Trades Council was not guilty of an unfair labor practice when it placed the name of one Kimsey, a manufacturer of store fixtures with whom they had a dispute on a "We Don't Patronize" list which was circulated among employers generally. (*Spokane Building and Construction Trades Council, A.F.L. and others, and the Kimsey Manufacturing Co.*—19-C-12.)

The Board did hold, however, that it was an unfair labor practice for union officials to cause their members who were employed by various specialty contractors to walk off the job by informing their members that they were working with Kimsey Manufacturing men and saying, "Didn't you know they (Kimsey) were on the unfair list—you wouldn't want to work with non-union men on the job here would you?"

Denham Office Upheld

The Senate on May 11 by a 53 to 30 vote, four more than needed, killed the President's Reorganization Plan No. 12 which would have abolished the independent Office of General Counsel of the National Labor Relations Board now held by Robert N. Denham.

Senator Taft (R., Ohio) led the attack on the plan which would have transferred the functions of the general counsel to the chairman or the board.

Two other reorganization plans relating to the Labor Department became effective at midnight May 23 without opposition.

The Secretary of Labor is authorized to coordinate the enforcement of the various statutes relating to labor standards on federal or federal-aid projects, including the Davis-Bacon wage predeterminations, by Plan No. 14.

Plan No. 6 transfers to the Secretary of Labor "all functions of all other officers of the Department of Labor and all agencies and employees of such Department."

Strong enough EMPTY to support a 100-ton rig!

MONOTUBE tapered steel piles

cut costs, speeded construction of Nueces Bay Causeway

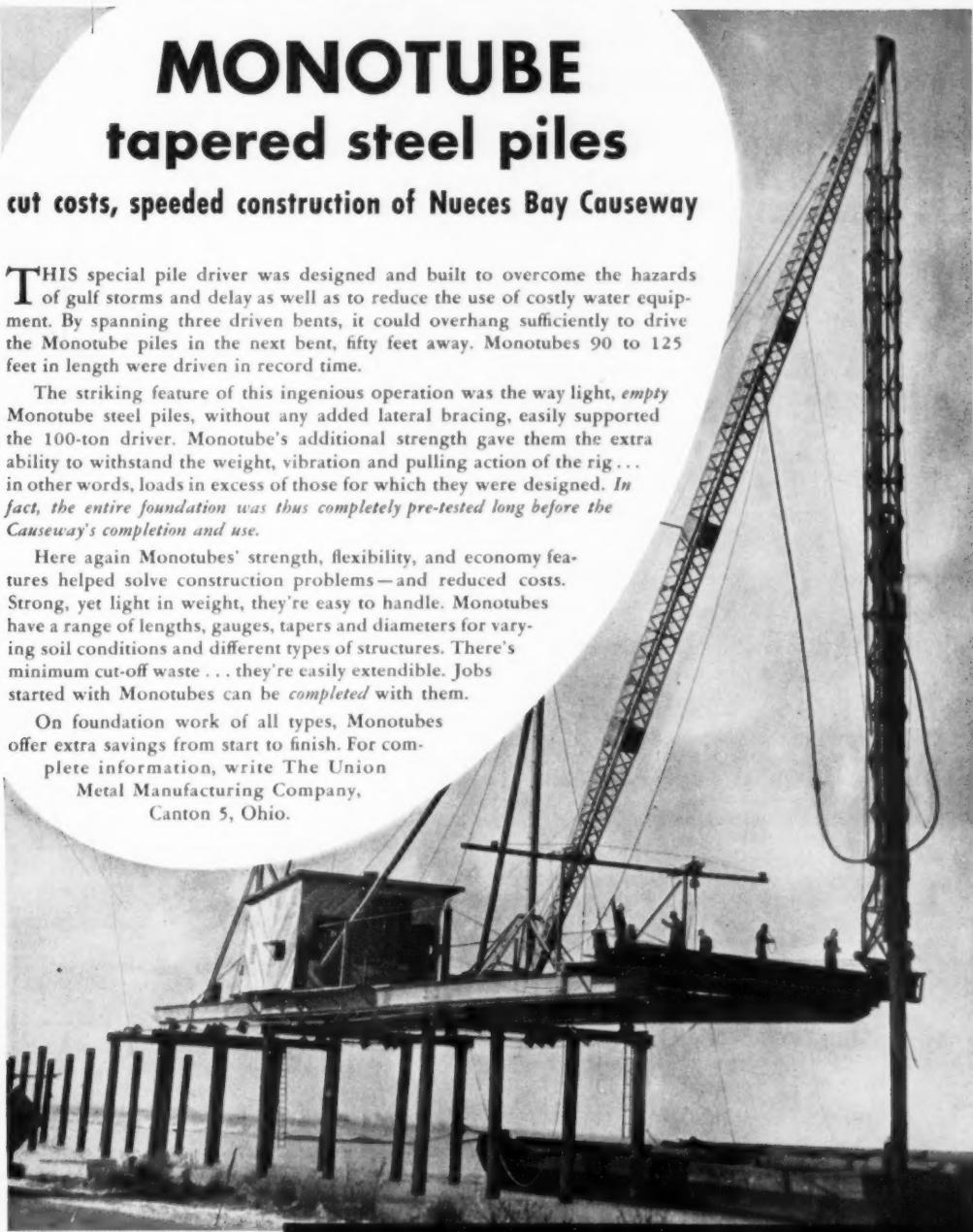
THIS special pile driver was designed and built to overcome the hazards of gulf storms and delay as well as to reduce the use of costly water equipment. By spanning three driven bents, it could overhang sufficiently to drive the Monotube piles in the next bent, fifty feet away. Monotubes 90 to 125 feet in length were driven in record time.

The striking feature of this ingenious operation was the way light, *empty* Monotube steel piles, without any added lateral bracing, easily supported the 100-ton driver. Monotube's additional strength gave them the extra ability to withstand the weight, vibration and pulling action of the rig . . . in other words, loads in excess of those for which they were designed. *In fact, the entire foundation was thus completely pre-tested long before the Causeway's completion and use.*

Here again Monotubes' strength, flexibility, and economy features helped solve construction problems—and reduced costs. Strong, yet light in weight, they're easy to handle. Monotubes have a range of lengths, gauges, tapers and diameters for varying soil conditions and different types of structures. There's minimum cut-off waste . . . they're easily extendible. Jobs started with Monotubes can be completed with them.

On foundation work of all types, Monotubes offer extra savings from start to finish. For complete information, write The Union

Metal Manufacturing Company,
Canton 5, Ohio.



Nueces Bay Causeway, Corpus Christi, Texas. Built by Texas Highway Dept., in cooperation with Bureau of Public Roads, under direction of D. C. Greer, State Highway Engineer. Contractors, Austin Bridge Co.

UNION METAL
Monotube Foundation Piles

Florida State A.G.C. Council Reviews Year's Activities

- Marshall Points Up Harm of Separate Contracts
- Ivy H. Smith Succeeds Orr as Council President



Ivy H. Smith

» ATTEMPTS of subcontractors to have their own work let separately threaten the contract method now in use, J. D. Marshall, assistant managing director of The Associated General Contractors of America, told the annual convention of the Florida State A.G.C. Council, held recently in Jacksonville.

Mr. Marshall asserted that such an idea is the antithesis of efficiency because it tends to destroy the nucleus by which a centralized and coordinated building program can be maintained. Departures from the single contract method would bring a rise in costs, he said, adding that the construction industry is now in a period of fierce competition during which only the most efficient operators will survive.

These ideas were restated in the report of Joseph J. Orr, John B. Orr, Inc., Miami, the Council's retiring president. He said that the unity of the Florida A.G.C. chapters produced many noteworthy results, foremost of which was the modification of a bill in the Florida legislature which would have made mandatory the award of separate contracts for construction projects. As finally passed, the bill did not include a compulsory pro-

vision requiring separate contracts.

To meet keen competition, Mr. Orr warned contractors to inspect their own organizations for the purpose of creating greater efficiency. Intelligent response to the challenge of competition demands improved administrative and operating techniques, he said.

Smith Elected President

A highlight of the convention was the election of Ivy H. Smith as 1950 president. He will be assisted by the five presidents of the Florida A.G.C. chapters, who automatically become vice presidents of the Council. Mr. Smith appointed R. McDonald Smith of the Jacksonville Chapter to serve as secretary-treasurer of the Council.

Mr. Smith, active in A.G.C. affairs for over 25 years, is a past president of the Northeastern Florida Chapter at Jacksonville, and past national A.G.C. director and Governing Board member. At present, he is president of the Ivy H. Smith Company, engaged in building, highway, and heavy construction. He also is president of the Sherman Concrete Pipe Company and a national director of the American Concrete Pipe Association.

Functions of the Joint Cooperative Committee of the American Institute of Architects and the A.G.C. was the topic of Welton A. Snow, Washington, D. C., in his address to the Council. Mr. Snow, manager of the association's Building Contractors Division, described the advantages and accomplishments of the committee and advocated the use of its approved Guide to Bidding Procedure.

A. P. McIntosh, safety consultant of the Florida Industrial Commission, listed 13 types of accidents which occur most often in construction operations, along with their direct and indirect costs in man days and money lost.

During the past year President Orr and Secretary Paul H. Hinds attended the annual convention of the Carolinas Branch, A.G.C., held in Augusta, Ga., and the 31st annual A.G.C. convention in San Francisco, along with 21 Florida members.

To guard against a tax on the total amount of the construction contract, the Council and many members advised the legislators accordingly, and the sales tax act as finally enacted, was worded to include the Council's suggestions. Following passage of the act, the Council president and secretary met with Comptroller Gay and achieved a clear and concise working arrangement.

Claiming a tax on the total amount of a contractor's construction contracts was illegal, the Council took a test case to the Florida Supreme Court which rendered a decision in favor of the contractor.

Chapter presidents and managers reported their activities for the year. Principal attention was given to public relations, labor relations, and apprenticeship programs. The five chapter members of the Council are: Northeastern, Northwest, South, West Coast and East Coast, all of Florida.

Mayor Haydon Burns, of Jacksonville, welcomed chapter delegates and speakers, and opened the convention.

Awarded Life Membership

Honorary life membership was bestowed upon J. W. Birmingham by members of the South Texas Chapter, A.G.C.

Mr. Birmingham, one of the organizers of the chapter and its 1946 president, has been in the contracting business since 1895, and has been active in contractor organizations in and around Corpus Christi since 1910. His influence and efforts which have helped to eliminate many unfair practices in the industry prompted his fellow members to award him the honor.

Dallas Round Table

Young executives connected with member firms of the Dallas Chapter have formed a study group with William Montgomery as chairman and moderator, to consider at informal, monthly dinner sessions the problems of the general contractor.

Topic of the first session, to be held in June, is the advantages of the single contract over the separate contract. Other planned topics are bidding, insurance, wage negotiations, methods of cost computation, and labor relations.

CHAPTERS • BRANCHES

Chapter Gives Student Medal

The Silver Medal Award of the Houston Chapter, A.G.C., was presented to Joseph C. Denham, at the annual dinner of the Architectural Society of the Texas A & M College on May 17. This is the second award to be made by the Houston chapter. The first was awarded to Oscar Wilde Stewart, Jr., in May, 1949.

The award is made on the basis of scholastic achievement of students of architecture and the chapter plans to present it yearly.

Denham is vice president of The Junior Chapter A.G.C. at Texas A & M. The junior chapter was established at the college last year through the sponsorship of the Houston chapter.

Colonel Geiger Dies

Colonel H. G. Geiger, 78, one of the oldest members of the Master Builders of Iowa, A.G.C., died of a heart attack May 6. He served on the Board of Directors of the Iowa chapter in 1929, and remained active in the construction industry and in his firm, Geiger Construction Company, Sheldon, Iowa, until his death. He is survived by two daughters and a son.

Two Chapters Elect

Two A.G.C. chapters recently reported elections of officers for 1950 as follows:

The A.G.C. of Wyoming chose Vern Knisely, of the Knisely-Moore Company, Douglas, as president, succeeding G. Clay Gates, of Leach Bros., Wheatland. Re-elected as secretary-treasurer was Homer A. Scott, of Peter Kiewit Sons' Company, Sheridan.

The Lake Charles (Louisiana) Chapter elected the following as 1950 officers: President, A. M. Muttersbaugh; secretary, Hudson East, of Knapp & East; and treasurer, R. E. Managan, of the Port City Construction Company, Inc.

James F. Salmon, New York manager for The Arundel Corporation, was elected 1950-51 president of The Moles, tunnel and heavy construction society in New York.

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Urban Planning A. I. A. Convention Topic

- Community Comfort, Not Bomb Protection, Called Basis

» THE 82ND annual convention of The American Institute of Architects last month in Washington, D. C., featured the awarding of various medals and honorary memberships, speeches and panel discussions concerning the trends and necessities of urban and rural expansion, and problems of interior lighting. Members made a tour of the Washington area, which included inspection of the White House now under repair.

All 1949 officers were re-elected: president, Ralph Walker, New York City; first vice president, Glenn Stanton, Portland, Oregon; second vice president, Kenneth E. Wishmeyer, St. Louis; secretary, Clair W. Ditchy, De-

troit; and treasurer, Charles F. Celiarius, Cincinnati. Edmund R. Purves continues as executive director.

The Gold Medal, the institute's highest award, was presented to Sir Patrick Abercrombie, M. A., Fellow of The Royal Institute of British Architects, for his "distinguished contribution to the profession of architecture and regional planning."

In a press interview, Mr. Walker stated that the increasing congestion of cities and the rapid expansion of the population call for a national "planning habit." Community comfort and not bomb protection should be the basis of decentralization, he said. Planners cannot possibly keep



Ralph Walker

abreast of the mounting destructive power that scientists are discovering.

The age of the big city is passing, said Lewis Mumford, international planning consultant and author of several works on sociology and planning. Contrary to the popular concept that the size of cities and towns will increase, Mumford claimed that a community has an optimum growth, which, when reached, should result in the establishment of a new community. He advanced the theory that large urban development is not an end in itself, but only a step to a new pattern of smaller, more self-sufficient, pleasanter living centers.

This theme of "comfortable living" was echoed by Paul Windels, lawyer and city planning consultant of New York City. To maintain wholesome living, self-sufficient communities must be deliberately established, he said.

U. S. Chamber Backs Urban Redevelopment

- A.G.C. Past President M. W. Watson Installed as Director

» MARTIN W. WATSON, of Topeka, Kansas, past president of The Associated General Contractors of America, was installed as a director of the Chamber of Commerce of the United States at its annual meeting concluded May 3.

He will serve as a director for the Construction and Civic Development Department. He succeeds another A.G.C. past president, William A. Klinger, Sioux City, Iowa.

New president of the Chamber is Otto A. Seyferth, president of the West Michigan Steel Foundry Company, Muskegon, who earlier in his career had been president of a machinists' local union, president of a local trades and labor council, and a union organizer.

In policy statements adopted by the 38th annual meeting, the one relating most directly to construction was as follows:

"Chambers of Commerce should avail themselves of the unparalleled opportunity to urge state and local governments to take vigorous measures to encourage the redevelopment through private activity of slum and blighted urban areas.

"Urban redevelopment laws should be enacted by states to empower cities to take the necessary steps to clear



M. W. Watson

slum and blighted areas and to encourage their rebuilding by private initiative and private investments. Activities by the federal government in this field should not extend to or include any types of subsidized government development."

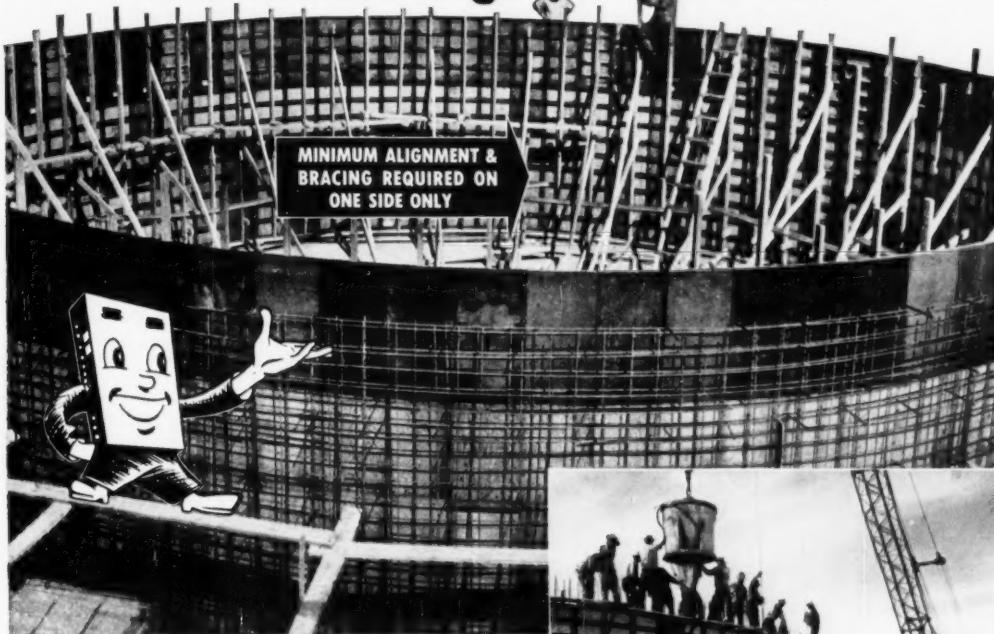
"Demolition ordinances should be enforced. There should be vigorous enforcement of state and local sanitary, safety and other requirements."

A.A.S.H.O. - A.G.C. Meeting

A meeting of the Joint Cooperative Committee of the American Association of State Highway Officials and The Associated General Contractors of America will be held at the Mapes Hotel, Reno, Nevada, on June 12. This will be held in connection with the annual meeting of the Western Association of State Highway Officials.

Included in the discussions will be possibilities on how highway contractors and A.G.C. chapters can be more helpful to state highway departments in their public relations programs.

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Total Material Saving \$2396.00

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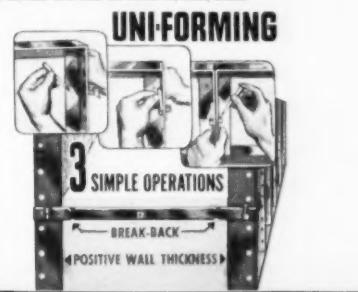
*Based on 25 uses @ an approx. cost of \$1.60 per sq. ft. with 50% salvage.

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BID COORDINATION

BID OPENING DATES OF LARGE PROJECTS

OPENING DATE	AGENCY	PROJECT
June 16	U. S. Atomic Energy Comm. Santa Fe Operations Los Alamos, N. Mex.	Inv. No. 895-507-26. Seven barracks at East Fort Richardson
About June 19	U. S. Atomic Energy Comm. Santa Fe Operations Los Alamos, N. Mex.	Inv. No. 291-50-113. Three concrete bldgs. with 20,400 sq. ft. floor.
June 20	Corps of Engineers Tullahoma, Tenn. Dist.	Inv. No. ENG 40-126-50-6. Elk River Dam excavation.
"	Board of Trustees Greensboro, N. C.	Moses H. Cone Memorial Hospital
"	Texas State Highway Comm.	Highway construction, Texas
"	U. S. Atomic Energy Comm. Santa Fe Operations Los Alamos, N. Mex.	Inv. No. 291-50-59. Laboratory bldg. at Los Alamos, N. M.
June 21	Texas State Highway Comm.	Highway construction, Texas
June 22	Corps of Engineers Tullahoma, Tenn. Dist.	Inv. No. ENG 40-126-50-5. Shipping and receiving warehouse.
June 27	U. S. Atomic Energy Comm. Santa Fe Operations Los Alamos, N. Mex.	Inv. No. 291-50-102. Central site facilities.
June 28	U. S. Atomic Energy Comm. Santa Fe Operations Los Alamos, N. Mex.	Inv. No. 291-50-93. Warehousing proj. "F," TA-3.
July 25	Veterans Administration Washington, D. C.	Specs. No. 5030. 500-bed G.M. hospital, Oklahoma City, Okla.
Aug. 15	Corps of Engineers Pittsburgh, Pa. Dist.	750-bed Vet. Adm. hospital Pittsburgh, Pa.

Reporting agencies: Department of the Army, Corps of Engineers; Department of the Interior, Bureau of Reclamation; Department of the Navy, Bureau of Yards & Docks; Bureau of Community Facilities, and Public Buildings Administration of the General Services Administration; Department of Commerce, Bureau of Public Roads; Veterans Administration; U. S. Atomic Energy Commission. State, municipal and private projects reported by The Associated General Contractors of America.

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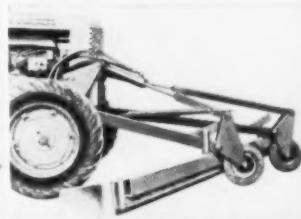
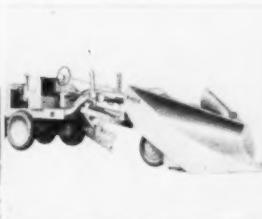
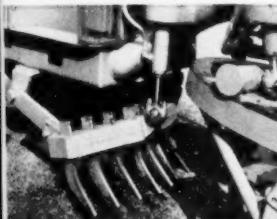
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Two-Way Radio Unit—Motorola, Inc., 1545 Augusta Blvd., Chicago 51. New FM unit is designed for true adjacent-channel systems. Designated "Uni-Channel Sencison Dispatcher," it is available for operation in 25-50 megacycle or 152-174 megacycle land mobile service bands. It is designed to provide full adjacent channel operation in event of FCC split-channel allocations. Models are available for operation from 6-volt D. C. or 117-volt A. C. primary power sources. They are offered in front-mount type for installation under car or truck dashboard, and rear-mount type for mobile trunk-mounted installations or where space is not available in front compartment.

Loader—John Austin, Inc., Denver, Colo. Model 4-C overshot loader is designed for use with utility size tractors. It has rated capacity of one cu. yd. and 20-second loading cycle. It will handle bank-run material at rate of 125 yds. per hour on 50-minute hour. Overshot action is powered by

Caterpillar Model 24 cable control unit driving single cable through wrap-around series of sheaves. Loader is made in 2 heights, for surface operation and for underground mining. Standard machine for surface operation has over-all height of 15'3" with bucket raised and dumping clearance of 8'.

Roller—Gabb Manufacturing Division, E. Horton and Son, East Hartford, Conn. Series AR "Motoroller" is offered with heavy-duty combination reverse gear and forward clutch assembly designed for constant operation in either forward or reverse. It operates at same speeds in either forward or reverse.

"Dumpcrete"—Maron Construction Co., 131 N. Ludlow St., Dayton 2, Ohio. Improvements are announced in "Dumpcrete" body. Swinging baffle inside body has been increased in over-all height and relocated to improve discharge action of concrete. Gate wings are built

higher with longer slope. Sides of hopper section of chute have been increased and swing-away type chute has been added to 4-yd. body. Strap steps are provided on front and rear running boards and gate discharge handles are more easily accessible. Fenders cover dual rear tires. New type cast steel anchor bracket assemblies are furnished for securing "Dumpcrete" to truck chassis frame. Splash board, gate wings cover, bulk cement cover, sideboards (8"), cab protector and special partition baffle are available as accessory equipment. Described in Pamphlet L-106, available from manufacturer.



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Trailers—*La Crosse Trailer Corp., La Crosse, Wis.* Three tandem axle semi-trailers with tilting platforms are offered in 13, 16 and 20-ton capacities. To tilt platform it is necessary only to unlock safety catch. When loaded it automatically returns to level position. Two double-acting hydraulic cylinders cushion 96"-wide trailer platform while it is being tilted. Pair of chains prevent cylinders from becoming over-extended during tilting. Two trailers (13 and 16-ton) are equipped with standard lunette for towing behind heavy-duty truck with standard pintle hook. Due to added drawbar load, 20-ton trailer requires special hitch. Trailers have walking beam axle supports to provide maximum oscillation of each wheel. They have 12 $\frac{1}{4}$ "x6" constant rise S cam brakes with $\frac{3}{4}$ " bolted-on linings and are fitted for either air or vacuum operation. Eight tires are provided on each model in following sizes: 7:50x15 for 13-ton; 9:00x15 for 16-ton; 10:00x15 for 20-ton. Gross load is distributed approximately 10% on drawbar and 90% on axles.



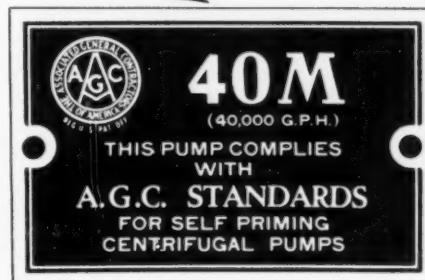
La Crosse tandem axle tilt trailer

Low-Bed Trailer—*La Crosse announces heavy-duty tandem axle low-bed trailer with rated capacity of 40 tons within 8' width limit. It is available with flat or drop-type platform and is fitted with 8 10:10x15 20-ply tires. Gross load is distributed 37,440 lbs. on king pin and 50,960 lbs. on rear axles. It is equipped with walking beams supporting rear axles and 12 $\frac{1}{4}$ x6 constant-rise S cam brakes.*

Window—*Detroit Steel Products Co., 3143 Griffin St., Detroit 11. Utility window has been re-designed and is offered completely packaged. It has been standardized in one size—2'9 $\frac{3}{8}$ " wide by 3'6 $\frac{5}{8}$ " high with 2 lights 15" x 20" and 2 lights 15 $\frac{5}{8}$ " x 19 $\frac{3}{8}$ ". Window is especially designed to fit concrete block construction.*



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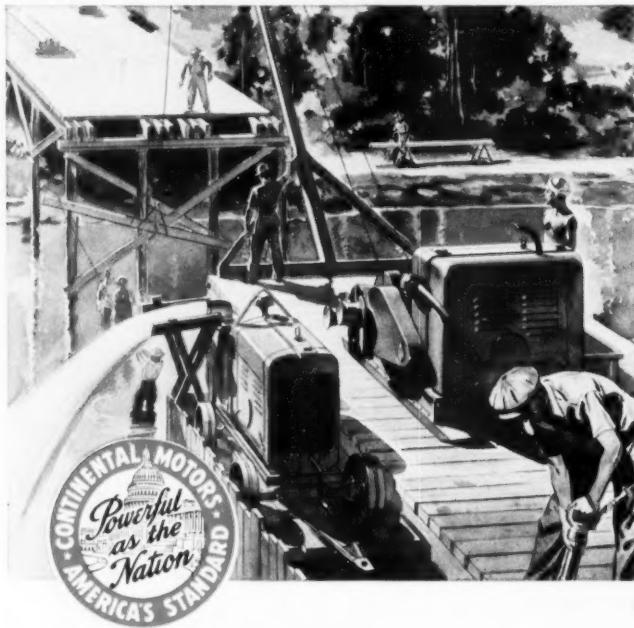
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Concrete Bucket—Blaw-Knox Co., 2060 Farmers Bank Bldg., Pittsburgh 22. Model CAC circular bucket is designed for handling low-slump concrete containing large aggregates and air-entraining agents. It has air-operated clam gate, rectangular discharge openings to prevent arching of concrete over discharge throat. Transition from circular hopper to rectangular discharge throat produces hopper slopes which are 70° with horizontal, with corners that are vertical. Model CAC buckets are furnished in 2, 3, 4 and 8 cu. yd. sizes. Latter can be supplied as 2-compartment or single-compartment bucket. Described in Bulletin 2331 available from manufacturer.



Blaw-Knox CAC concrete bucket

Safety Innersole—Rubberhide Co., 115 Whitehead Road, Trenton 4, N. J. Leather innersole, special spring steel plate and rubber-frictioned cotton duck are bonded together with special cement. Innersole is designed to fit into any conventional work boot or shoe.



Scarifiers—*Preco, Inc., 6300 E. Slauson Ave., Los Angeles 22.* Back-rip scarifiers mounted on back-side of bulldozer moldboards rip ground when tractor backs up and float on top of ground when moving forward. Set of scarifiers consists of 4 curved shanks capped by lock-on replaceable teeth, each mounted in separate housing which is welded to back of bulldozer moldboard. Teeth can be raised and pinned out of way when not in use. Scarifiers are available for standard straight blade bulldozers.

Hoists—*Harnischfeger Corp., Hoist Division, 4418 W. National Ave., Milwaukee 14.* 1950 line of P&H "Zip-Lift" electric hoists have new safety features. Magnetic lower limit switch prevents cable from running off drum and rewinding itself. Extra ground conductor on feeder cable is now standard. Reinforced push button pendant is provided to protect operators moving heavy loads along jibs and trolleys.

by pulling push-button cable. Grooved drums are used to provide longer cable life. Models are available in capacities up to 2,000 lbs.

Rubber Pads for Crawlers—*Metal-weld, Inc., 26th and Hunting Park Ave., Philadelphia 29.* Process vulcanizes resilient rubber to steel plates which are bolted to crawler pads to permit movement of pavers over finished concrete. Goodrich "Vulcalock" bonding process is used to join rubber and steel with bond strength of over 500 lbs. per sq. in.

Ripper—*Shaw Sales & Service Co., 5100 Anaheim Telegraph Rd., Los Angeles 22.* Heavy-duty ripper is designed for attachment to Allis-Chalmers HD-5 G "Tracto-Shovels." It works to maximum depth of 15". Standard equipment consists of ripper frame, 4 shanks and ripper points, hydraulic cylinder, necessary hose and fittings and attachment bolts. Frame

is built to take up to 7 ripper shanks with shank holes spaced on 12" centers. Shanks are 1 $\frac{3}{4}$ " thick, 3" wide and 21" long. Points can be removed from shanks for re-sharpening or replacement. Shank locking is by metal wedge. Over-all width of frame is 75". Maximum ripping width (outside to outside of teeth) is 72". Base frame (horizontal) is 6" x 7" x 3 $\frac{1}{2}$ ". Vertical frame is 1" x 6".



Shaw heavy-duty ripper

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THE CLEVELAND TRENCHER CO.

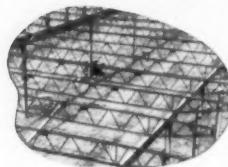
20100 ST. CLAIR AVENUE • CLEVELAND 17, OHIO

Hard-Facing Electrodes — *Stoody Co., 11934 E. Sluson Ave., Whittier, Calif.* New AC-DC coatings are announced for several electrodes formerly limited to DC application. Among these are "Stoodite," "Tube Borium" and "Borod." Distinguishing feature of new coatings is graphite type base which eliminates slag interference and produces stable arc.

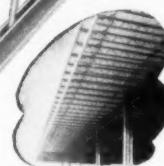
Plywood Forms in Magnesium Frames — *Symons Clamp & Mfg. Co., 4249 W. Diversey Ave., Chicago 39.* Plywood faced panels in magnesium frames are offered in 2' widths and are made in 4', 6', 7' and 8' lengths. Fillers are made in any widths required. Standard widths are 14", 16", 18" and 20". Two-inch fillers are made from 2" lumber cut 2½" wide;

1" fillers are made from 1" boards cut 2½" wide. Plywood faced panels in magnesium frames are interchangeable with all-magnesium panels. Inside and outside corners are also made of magnesium. Booklet describing new forms and giving general directions for setting them up and caring for them is available from manufacturer.

FOR STRENGTH... ADAPTABILITY... ECONOMY...



Campbell 66 Motor Terminal
Swan Const. Co.
R. X. Grueninger, Arch.



Bettendorf Super Market
Dickie Const. Co., Wischmeyer
and Lorenz, Arch.

USE LACLEDE STEEL JOISTS

- **FASTER CONSTRUCTION** — Light . . easily handled . . prefabricated to speed the job.
- **ADAPTABLE** — They combine efficient structural function with architectural versatility.
- **ECONOMICAL** — They assure more room at less cost. Their high strength plus light weight provide substantial savings in foundation and framework, and utility conduits, pipes and lines are easily threaded through the open webs.

Specify These Laclede Products For Your Construction Needs

Multi-Rib Reinforcing Bars . . Steel Pipe . . Steel Joists & Nailer Joists . . Welded Wire Fabric . . Form & Tie Wire . . Round & Square Spirals . . Conduit . . Corrugated Steel Centering . . Electrical Weld & Gas Weld Tubing.

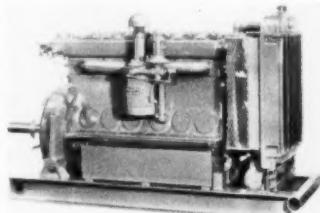


LACLEDE STEEL COMPANY

St. Louis, Mo.

Scoop-Shovel — *Yale & Towne Mfg. Co., Philadelphia.* Hydraulically operated scoop shovel for handling loose materials is designed for attaching to "Lift King" and "Worksaver" electric and gas fork trucks. It handles up to 27 cu. ft. of material. It tilts upward from horizontal scooping position to carry load and tilts downward to discharge load. It scoops at ground level or digs into piled material. It will dump loads into receptacles at heights up to 130".

Engines — *Murphy Diesel Co., 5333 W. Burnham St., Milwaukee 14.* Line of heavy-duty engines, power units and generator sets are capable of burning either natural gas or diesel fuel. Employing same basic construction as Murphy diesel engines, dual-fuel engines are operated on either fuel simply by positioning of single lever. In gas operation, gas is fed to engine through air cleaner and intake manifold at substantially zero pressure. Vacuum of engine delivers full charge of air every intake stroke and hydraulic governor-controlled gas valve admits correct amount of gas to deliver h.p. required. Ignition is accomplished by injecting pilot diesel fuel into cylinder. Heat of compression ignites gas-air mixture. Engines are available in 3 models ranging from 135 to 180 h.p. Described in Bulletin 107 available from manufacturer.



Murphy Diesel dual-fuel engine

Dump Truck—Hercules Steel Products Corp., Galion, Ohio. New accessory converts $\frac{1}{2}$ -ton, $\frac{3}{4}$ -ton and 1-ton pick-up trucks into dump trucks. Main elements are: clutch-type hydraulic pump, fan-belt powered, which is operated only when dumping; steel understructure for mounting under pick-up body; twin-cylinder hydraulic hoist rams. Mounting height of truck body is increased by less than one inch. Channels and cross members of understructure are of structural steel welded into integral unit. Known as "Tipster," unit is operated from truck cab by single dashboard control.

Portable Radio—Radio Specialty Manufacturing Co., 2023 S. E. Sixth Ave., Portland 14, Oreg. FM "pack-set" type communication unit weighs less than 25 lbs., including batteries, and can be carried on back. It has power output of 1 to $1\frac{1}{2}$ watts. Heavy-duty type battery packs, or vibrator power supply operating from car battery can be plugged into unit to boost power output as high as $7\frac{1}{2}$ watts.

Form Clamps—Pacific Engineering Sales Co., 215 W. 5th St., Los Angeles 13. All-steel wood-form clamps are designed for construction of curb, curb-and-gutter cross sections and concrete foundations. System is adjustable for widths of top of curb from 4" to 8"; batter, from vertical to any angle. Face form can be supported to any height up to 24".



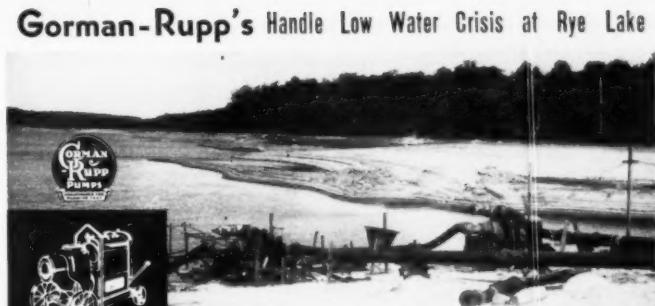
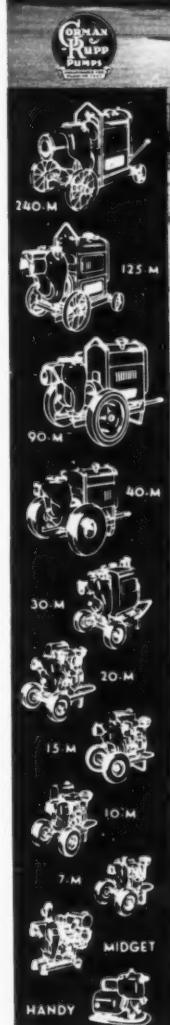
Pacific steel wood-form clamps

PRESTRESSED CONCRETE

A rational method of construction for elevated express highways, heavy underpasses, underground garages, containers and ducts carrying liquids.

L. COFF, Consulting Engineer, 198 Broadway, New York 7, N. Y.; Cortland 7-2753

Gorman-Rupp's Handle Low Water Crisis at Rye Lake



When Rye Lake, Westchester County, New York, receded, cutting off three villages from water supply, the crisis was met by putting dependable Gorman-Rupp pumps on the job.

**240-M
10 inch**



**THE WORLD'S MOST COMPLETE LINE
... OF SELF-PRIMING
CENTRIFUGAL PUMPS**

Whatever the job requires: a tiny twenty pound "Handy" pump, a lightweight "Midget" pumping 5500 GPH, or a pump handling up to 240,000 GPH, you will find the most efficient pump is the Gorman-Rupp.

QUICKEST PRIMING: The 40 M, for example, primes at 15 foot Suction Lift in 40 seconds.

HIGHEST PRIMING: High suction lifts are easy for Gorman-Rupp Pumps.

FASTEAST PUMPING: More water per gallon of fuel than any other comparable pump.

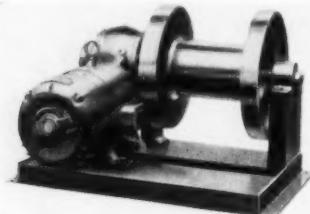
DEPENDABLE: The most simple pump built — will not clog. Trouble-free, requiring a minimum of maintenance.

GUARANTEED IN PLAIN LANGUAGE by Manufacturer and Distributor. Ask for copy of our guarantee.

Write for new Contractors' Bulletin 8-CP-11.



Electric Hoists—King Manufacturing Corp., 3152 W. Chicago Ave., Chicago 22. New "800" series of hoists for material elevators feature push-button control. Series consist of 5 sizes, from 2 to 10 h.p., and capacities from 600 to 3,000 lbs. Hoisting speed is 100' per minute, single line pull. By using double sheave block top and bottom and 4 lines, capacity can be quadrupled, but hoisting speed will be decreased to 25' per minute. All models are equipped with 220-440 volt, 3-phase, 60-cycle A. C. motors.



King "800" electric hoist

Shovel—Manitowoc Engineering Works, Manitowoc, Wis. Model 4500 is 5½ cu. yd. shovel, crane and dragline. It has air controls for all operating clutches and brakes, straight diesel power and crawler drive. On job, travel speed is .77 m.p.h. Standard crawlers are 25' 9" long and 21' wide with choice of 48" or 60" pads. Steering is air-controlled. Shovel booms are available in lengths of 38' 6" with 27' stick and 5½ cu. yd. dipper; 50' with 37' stick and 5 cu. yd. dipper; 60' with 45' stick and 4½ cu. yd. dipper. Optional dragline and clamshell boom lengths vary from 100' to 140' with upper 75'-90' made of aluminum alloy. All-steel lifterane booms are available in lengths from 87' up, with crane rated lifting capacity of 100 tons at 20' radius.

Power Wheelbarrow—Whiteman Manufacturing Co., 3249 Casitas Ave., Los Angeles 39. New 1950 model of "Power Buggy" has faster dumping operation than older model. New curved rack and pinion mechanism im-

proves leverage and gives operator full control of dump and return of bucket. Speed has been increased from 12 to 16 m.p.h. Carrying capacity is now 13 cu. ft. Maximum load is 2,000 lbs. It has lower center of gravity, wider tread and shorter wheelbase. It is powered by 7.5 h.p. 4-cycle, air-cooled engine. It has automatic clutch and speed changer, power to pull load up 25% inclines and ability to turn in its own length.

Excavator—General Excavator Co., Marion, Ohio. Model 420 one cu. yd. capacity excavator and material handler features air control of all major motions. Short throw levers control metering valves which apply right amount of air pressure at will of operator. Independent travel and independent boomhoist are standard on Model 420. Special transmission on deck provides 2 speeds, forward and reverse. It is offered as shovel, dragline, clamshell, lifting crane, hoe, pilerunner, magnet crane, and is readily interchanged. Choice of diesel or gasoline power is given.

Owen Buckets?

Yes!—whether the scene of construction activity is concerned with EXCAVATING, DREDGING OR REHANDLING, you'll more than likely "spot" one or many Owen Buckets hard at work, coming up with "A Mouthful at Every Bite" and taking "More Bites per Day." Write TODAY for the Catalog.

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7750 Breakwater Ave. Cleveland, O.
Branches: New York, Philadelphia, Chicago, Berkeley, Cal.

OWEN
CLAMSHELL BUCKETS
INSURE A BIGGER DAY'S WORK

SLOANE QUANTITY SURVEYS For All Classes of Construction

We Maintain a Large Staff of Engineers Which Assures Speed—Accuracy—Full Detail Reasonable Prefixed Charges

Approved by
Associated General Contractors of America and Federal, State and Municipal Authorities

Your Inquiry Will Receive Prompt Attention and Sample Estimates

H. A. Sloane Associates

Established 1922

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New York 17, N. Y.

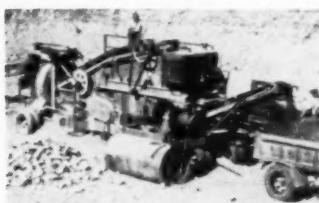
SURVEYS VALUATIONS
APPRaisALS

Crushing Plant — Universal Engineering Corp., 331 8th St., N. W., Cedar Rapids, Iowa. "TwinDual Gravel-King" portable plant features 3 stages of crushing with scalping screen feed. Pre-screening operation sizes and removes natural sand and gravel. Large boulders are scalped to large-opening primary. Material requiring secondary reduction is bypassed to roll crusher. All chips can be produced, or finished material from scalping screen can be blended with crushed material. Apron feeder is interchangeable with scalping screen for quarry rock. "Gravel-King" is made in 2 sizes—"Junior," with 18 $\frac{1}{2}$ " roller bearing jaw crusher, 2 $\frac{1}{2}$ " "TwinDual" roll secondary, 3'x8' 2 $\frac{1}{2}$ -deck gyrating screen, 3'x6' 2-deck gyrating scalping screen and swivel feed conveyor.



Universal's "TwinDual Gravel-King"

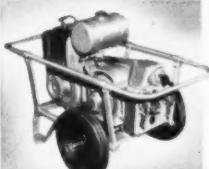
"Senior" has 2036 roller bearing jaw crusher, 30" "TwinDual" roll secondary, 1'x10' 2 $\frac{1}{2}$ -deck gyrating screen, 1'x10' 2-deck gyrating scalping screen and swivel feed conveyor. Plant operates from one power unit. Described in Bulletin U-501 available from manufacturer. *New features are announced in Model 880 "Junior B Gravelmaster" crushing, screening and loading plant. Over all height has been lowered and screening area increased with 2'x8' 2 $\frac{1}{2}$ -deck screen. It also has provision for removal of chips. Plant has 10"x16" roller bearing jaw crusher and 18"x16" star gear roll crusher. Power is mounted on plant. It may be fed by shovel-loading hopper mounted on plant or by swivel feed conveyor.



Universal 880 "Junior B Gravelmaster"

IT'S A "HUMDINGER"

FOR
BRIDGE DECKS
•
MUNICIPAL
PAVING
•
HIGHWAY
WIDENING



MODEL M-1 POWER PLANT

Capacity 1.25 KVA. Other plants of 2.5 and 5 KVA. All have permanent magnet generators requiring no adjustment or maintenance. All generate both single phase and 3 phase 60 cycle, 115 volt AC.



JACKSON PAVING UNIT

It consists of a manually guided, electric vibratory paving machine and portable power plant and will place upward of 65 cu. yds. of stiff mix concrete per hour; will undercut at side forms and curbs; strike off to crown (both regular and inverted); roll back for second passes. Works right up to and around sewers, manholes and other obstructions. Quickly adaptable to any slab width from 6' up to any practical width. Has strong tendency to propel itself. Operators work from front, side or rear. Power Plant generates both single and 3-phase 60 cycle AC and may also be used for lights and operating other contractor's tools. Write for complete details.*

AND FOR THE FASTEST, handiest means of thoroughly compacting granular soils, investigate

'THE JACKSON VIBRATORY SOIL COMPACTOR

This machine can be used to tremendous advantage in compacting granular backfill under factory floors, in trenches, bridge approaches, close to bridge abutments, alongside foundations, under footings, ramps, sidewalks, municipal pavements, loading docks; in compacting such granular soil as is used in earth fill dam construction and many other places. Delivers up to 4500 1/2-ton vibratory blows per minute. Propels itself at 6' to 8' per min. One man can guide two units side by side. The Jackson M-1 Power Plant will operate two of these machines simultaneously. Complete details on request.*

OTHER MONEY-MAKING VIBRATORY EQUIPMENT

for vibrating full slab widths of highway and airport paving; Side Form vibrators for attachment to finishers and spreaders; mass and general construction vibrators ideally suited to each type of job.

***FOR SALE OR RENT** at Jackson Distributors.

Write for the handy **JACKSON "POCKET GUIDE"** describing the complete line.

ELECTRIC TAMPER AND EQUIPMENT CO. • LUDINGTON, MICH.

Crushing and Screening Plant—*Austin-Western Co., Aurora, Ill.* Model 61 portable plant is designed for rapid production of crushed rock or gravel where extreme accuracy in grading to size is not required.



Austin-Western "61" crushing and screening plant

Portable Road Beacon—*International Standard Trading Corp., 67 Broad St., New York 4.* Unit produces approximately 70 flashes per minute. Beacon consists of special gas discharge lamp, simplified pulse producing unit, battery and lens. All electrical parts, including battery elec-

ments, are assembled into one unit and placed within cylindrical welded steel container. Lid carrying lens is placed on top of container and fastened by 4 screws. Developed by Standard Tele-fon-og Kabelfabrik, Oslo, Norway, it is being marketed through International Standard Trading Corp.

Bucket Loaders—*N. P. Nelson Iron Works, Clifton, N. J.* New heavy-duty bucket loaders are offered in 2 models: P-11, mounted on wheels; Q-11, on crawlers. Both machines handle loose material up to 3" cube either from stock piles or bank run sand and gravel pits. Rated loading capacity is 3 to 4 cu. yds. per min., maximum weight of 150 lbs. per cu. ft. Features of loaders are: hydraulic boom control, Timken bearing elevator, 3-point mounted spiral feed shaft, manganese steel bucket chains, sprockets, bucket edges and spiral feeder edges, Twin-Disc clutches with double

roller chain transmission drive. Hoist has dual double-acting cylinders.

Scraper—*Wooldridge Mfg. Co., Sunnyvale, Calif.* Model TC-170 tractor-drawn scraper has capacities of 17 cu. yds. struck and 20 cu. yds. heaped. It features new curved ejector and 65" apron opening, 3-piece cutting edge and re-engineered cable arrangement. Of formed steel construction, it has increased ground clearance. Machine has original Wooldridge principles of rear-draft fulcrum leverage and boiling bowl loading.



Wooldridge TC-170 scraper

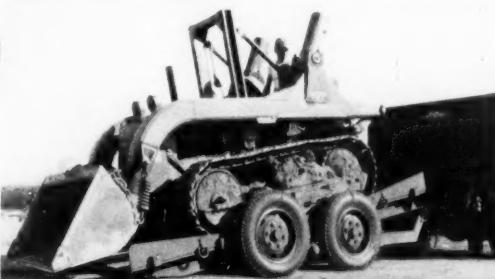
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TILT — LOAD — You're off to the next profitable job!

WITH Jahn Tilt Trailers on your payroll you can move tractors, rollers, compressors, mixers, practically any kind of equipment—move it fast, safe and economically. Positive, automatic safety lock holds platform in position when loaded or empty. On your way without delay with Jahn Trailers moving your equipment.



For your heavy equipment, Jahn Tandem or Multiple Axle Trailers meet the most severe operating conditions. Easily loaded. Extremely rugged construction. Smooth, reliable equalized brakes. Extra strong gooseneck.



Save Time and Money with JAHN TILT TRAILERS

THERE'S a size and type of Jahn Trailer to meet every equipment hauling requirement. All heavy duty models are quickly and easily converted from semi to full trailers with converter dolly. Any wheel or axle combination available. Capacities 5 to 100 tons. See your Jahn distributor today.

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PRESSED STEEL CAR COMPANY, INC.
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THERE'S A JAHN TRAILER FOR EVERY HAULING NEED



Tandem Axle Trailers

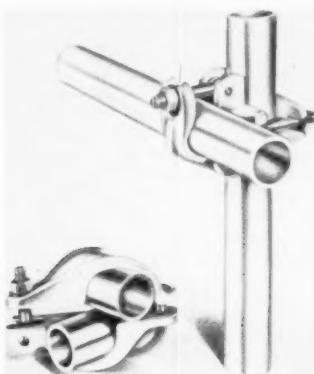


Single Axle Tilt Trailers



Single Axle Trailers

Scaffold Clamp and Pipe—Acrow, Inc., 420 Lexington Ave., New York 17. New line of light-weight aluminum alloy scaffold clamp and pipe, known as "Acrominum," consists of 4 types of clamps. Advantages claimed for clamps are that they are light-weight, rustless, strong and flexible.



Acrow scaffold clamp and pipe

Form Stake—Rockford Bolt & Steel Co., Rockford, Ill. "Saber Stake" is made of 1-1/8" round steel, is 48" long, has forged steel point, and 2"x4" carrier located near top with hole in handle so 2"x4" can be spiked into firm position.

Safety Check of Trucks

International truck dealers and branches have joined the National Vehicle Safety Campaign to "safety check" the mechanical condition of vehicles for the summer traffic season. W. K. Perkins, general sales manager of the motor truck division of International Harvester Company, announces.

The dealers and branches are offering a "safety service special" check for trucks in their areas in conjunction with the National Safety Council campaign. The specially priced "safety special" includes checking and adjusting of brakes; steering check, with linkage inspection; front wheel bearing adjustment and toe-in correction; focusing of headlights and inspection of other lamps, signaling devices and windshield wipers; and lubrication of chassis plus inspection of elements such as springs, propeller shaft, exhaust system and tires.

Why line your trench
with DOLLARS?

Sheeting that can't be salvaged adds unnecessary expense to the cost of many jobs. You can avoid this by using Armco Steel Sheetings.

This durable sheeting can readily be pulled and re-used over and over again. A convenient hole near the top of each section facilitates pulling. Storage is no problem because individual units nest together to save space.

Light weight and a small displacement area make Armco Sheetings easy to handle and drive. You'll find it can generally be driven to penetration before excavation. Either a hand maul or power hammer may be used.

You'll like Armco Steel Sheetings as a cost-cutting tool on a wide variety of jobs. It is ideal for shoring trenches, building core walls and cofferdams, shore protection and similar uses.

Write for prices and other data today. Armco Drainage & Metal Products, Inc., 5000 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation.

Armco Steel Sheetings



Hardfacing Alloys—*Mir-O-Col Alloy Co., 312 North Ave. 21, Los Angeles 31.* Fourth edition of *Weldor's Guide to Successful Hard-Facing* presents data and instruction about hard-facing procedure in maintaining equipment, and describes Mir-O-Col's line of hard-facing metals and their application and uses.

Earth-Moving Equipment—*Caterpillar Tractor Co., Elgin 8, Ill.* Complete information on new machines recently added to Caterpillar line is presented in products catalog (Form 12597) which also presents complete line of Caterpillar equipment. Illustrations and complete specifications are presented on diesel tractors, motor graders, engines, bulldozers, scrapers and hydraulic controls.

Engines for Pumps—Caterpillar offers booklet, *Pump Power* (Form 12809), which presents facts and figures on irrigation, dredge, waterworks, repressuring and water supply pumps

driven by Caterpillar diesel engines.

Power Wheelbarrow—*Kwik-Mix Co., Port Washington, Wis.* Latest model of "Moto-Bug" is presented in new leaflet which announces addition of hydraulic lift attachment which will handle capacity load of 500 lbs. Illustrations show other improvements and developments on "Moto-Bug" including large steering wheel and 5' scraper blade or snow plow attachment.

Drainage Structures—*Armeo Drainage and Metal Products, Inc., Middletown, Ohio.* Booklet, *Armeo Perforated Pipe for Controlling Ground Water*, describes harm done by ground water to roadbeds, subgrades for airports, streets, industrial sites. Seven pages of diagrams show typical methods of treating sub-surface drainage problems. Advantages of perforated pipe are discussed and recommended installation methods are given. Strength advantages of Armeo metal drainage

structures are described in pamphlet, *Here's the Strong Man to Handle Your Drainage Problems*. Photos and diagrams show how flexible metal underground structures support heavy loads. Beam strength and strength and durability of joints in both pipe and "Multi Plate" structures are discussed. Listing of Armeo drainage structures outlines types suitable for various installations.

Form Clamps and Ties—*Williams Form Engineering Corp., Box 925, Madison Square Station, Grand Rapids 7, Mich.* Revised specifications for form clamps and ties for securing concrete forms, especially architectural concrete, set forth amount of disconnection recommended for exposed surfaces and those not exposed. They describe types of spacers for architectural concrete, new type of form aligners and anchors of wall to footing, waler supports and their value in holding forms to alignment. Specifications give factor of safety recom-

If it's a TRAILER You're Buying, CHECK and SEE! what ROGERS

Type T Level Deck
Semi-Trailer

offers in the
POPULAR "T"

An increasingly popular general purpose trailer which affords a large capacity in an 8 ft. deck width, legal in all states.

Eight tires on two longitudinal rocking stub axles to provide desired oscillation.

Level deck or drop deck in 15, 20, 25, 30 and 35 ton capacities. Large diameter tires and power detachable gooseneck in capacities from 25 to 65 tons in 8 ft. width, 75 tons capacity in 10 ft. width. Write for catalog for details.



ROGERS BROTHERS CORPORATION
DESIGNERS and BUILDERS of HEAVY DUTY TRAILERS
SINCE 1915
223 ORCHARD ST. ALBION, PENNA.

dewater the Complete way

When the going gets wet—call on "Complete"! We have the proven equipment, the successful experience and the cooperative personnel to keep you on firm ground. Remember this—only "Complete's" patented fluted wellpoint provides Complete assurance of constantly dry ground at all times.

Write today for "Complete" catalog Dept. CO

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**COMPLETE
WELLPOINT
SYSTEMS**
FOR SALE OR RENT

NEW LITERATURE

mended for ties over actual estimated pressures due to unexpected conditions of impact and vibration of concrete as well as unusual head of concrete over average rate of fill.

Jacks—*Templeton, Kenly and Co., 1020 S. Central Ave., Chicago 44.* Complete specifications and application information on all sizes and types of mechanical and hydraulic "Simplex" jacks are included in Catalog 50. Catalog groups jacks by type and gives quick identification of major uses of each. Illustrated.

Rollers—*Buffalo-Springfield Roller Co., Springfield, Ohio.* New line of variable weight 3-wheel rollers are described in 16-page catalog. Five new models are featured. In addition to illustrations and specifications, catalog carries section explaining selection of right roller model for job.

Basement Window—*Detroit Steel Products Co., 3143 Griffin St., Detroit 11.* Bulletin presents new "Fenestra" steel basement window, lists sizes available, describes advantages and shows construction features and installation details.

Plywood—*United States Plywood Corp., Weldwood Bldg., 55 W. 44th St., New York 18.* Many new woods and grades of plywood are listed in 1950 Weldwood Catalog. Illustrations and descriptions are included of 66 of company's products.

Soil Stabilizers—*Harnischfeger Corp., Stabilizer Division, 4418 W. National Ave., Milwaukee 14.* Bulletin S-8 presents P&H single pass soil stabilizers in road and airport work. Pictures of stabilizers on jobs with job information are included. Large cut-away drawing explains operation of stabilizer and condensed specifications are included.

Film on Vermiculite

A sound film showing the uses of vermiculite products in construction has been issued by the Vermiculite Institute. Entitled "Vermiculite, the Wonder Mineral," the film runs about 18 minutes. It can be obtained on loan without charge from E. R. Murphy, Vermiculite Institute, 208 S. LaSalle St., Chicago 4. The only requirement is a competent operator and standard projection equipment.



FOR PROFITS...ECONOMY...SPEED use **Ramset System**

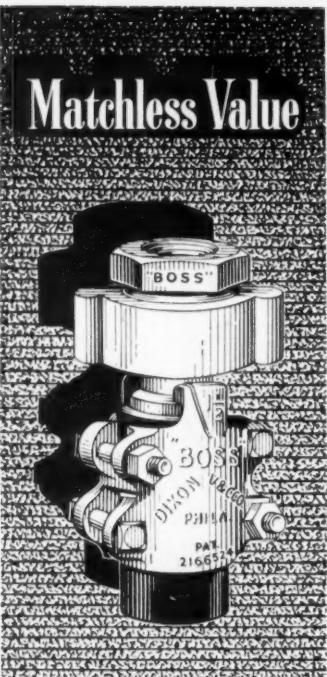
When fastening into steel . . . concrete . . . masonry

Push costs down and profits up by using fast, sure RAMSET SYSTEM for most fastening jobs in steel or concrete. Sturdy, dependable RAMSET TOOL instantly sets any one of 65 drive pins or threaded studs. No muss, no fuss, no trouble.

Cost-saving and time-saving advantages of RAMSET are being proved every day by thousands of users . . . with time and costs cut as much as 70% over old-fashioned methods.

Ask for a 15 minute demonstration and proof of RAMSET's ability to outwork less efficient driving tools. Call your local RAMSET Specialist or ask us for details.

STEMCO CORPORATION
12117 Berea Road • Cleveland 11, Ohio
PIONEER IN POWDER-ACTUATED FASTENING



***"BOSS"**
Washer type female coupling

Style W-16

Users of this long-time leader in the Dixon line represent a roster of American industry. Its quality and design distinguish it from others frequently yet improperly classified as "Boss type couplings."

Stocked by Manufacturers and Jobbers of Mechanical Rubber Goods.

**Reg. U. S. Pat. Off.*

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VALVE & COUPLING CO.
Main Office and Factory: PHILADELPHIA, PA.
BRANCHES: CHICAGO · BIRMINGHAM · LOS ANGELES · HOUSTON

MANUFACTURERS' NOTES

Matchless Value

H. F. Garvin Pelsue, former president of the Metropolitan Sand and Gravel Corp., New York City, and a past president of the National Ready Mixed Concrete Association, is now associated with JAEGER MACHINE Co. in charge of research. He also heads Jaeger's advisory engineering service to ready mixed concrete producers.

Walther H. Feldmann has been named vice president in charge of sales for WORLINGTON PUMP AND MACHINERY CORP. Mr. Feldmann was formerly president of Electric Machinery Mfg. Co., a Worlinton subsidiary. John J. Summersby has been named vice president in charge of purchases for Worlinton. Frederic W. Thomas is general manager of purchases and Carleton Reynell, general representative, sales and purchasing departments. Richard H. Olson succeeds Mr. Feldmann as president of Electric Machinery Mfg. Co. He was formerly vice president in charge of sales.

The addition of 24 "Skil Tools" salesmen, a 40 per cent increase in advertising expenditures and stepped-up merchandising activities are called for in 1950 plans recently announced by Paul Watts, sales manager of SKIL-SAW, INC.

W. J. Allaback has been appointed production manager of THE THEW SHOVEL CO. He has been with Thew since January 1948.

Samuel L. Cribari, 30 years ago office boy for MARQUETTE CEMENT MANUFACTURING CO., has been elected a vice president of the company. He will continue to be in charge of all sales divisions. Three new directors, including the daughter of one of the founders of the company, have been elected to the board. The new members are Mrs. Mary Dickinson Hoffmann, Edward H. McDermott and Deforest S. Colburn. Mrs. Hoffmann is the daughter of William Dickinson who, with his brothers, Theodore and John, established the original Marquette Cement Co. in 1898.

R. C. Stein has been made manager of molded goods sales in the mechanical goods sales division of GOODYEAR TIRE AND RUBBER CO. R. E. Chapman is manager of hose sales, succeeding R. W. Sanborn, who is now representing the division in the Akron territory.

GRIFFIN

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SYSTEMS**

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PUMPS**

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ENGINEERING CORP.**
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HAMMOND, INDIANA

GRiffin WELLPOINT CORP.

881 EAST 141st ST. • NEW YORK 54, N.Y.
Phones: MEtro 5-7764-54

Ray Cartwright, formerly manager of the St. Louis district office of STANDARD STEEL WORKS, has been named manager of road equipment of this company, with headquarters in North Kansas City, Mo.

E. M. Platts has been elected executive vice president of JOY MANUFACTURING CO., succeeding the late Arthur S. Knoizen. Mr. Platts was formerly sales vice president. Darrell Smith has been appointed manager of distributor sales.

O. G. Mandt, president of MANDT MANUFACTURING CO., formerly located at Columbus, Ohio, has announced the moving of its general offices to 10421 Haggerty Ave., Dearborn, Mich., where all production has been affiliated with that of the Transmission and Gear Co.

Obituary

Edward W. Stephens, 51, manager of belting sales for The Goodyear Tire and Rubber Co., died May 8. Mr. Stephens designed the 10-mile conveyor system which moved sand and gravel to Shasta Dam. He also designed many of the conveyor systems used on other large reclamation projects.

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Manufacturers' addresses are listed on page 79

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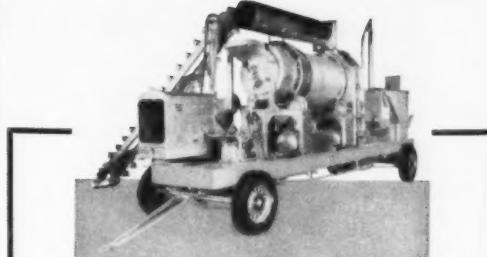
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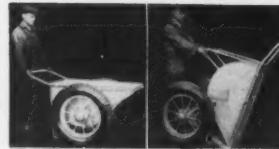
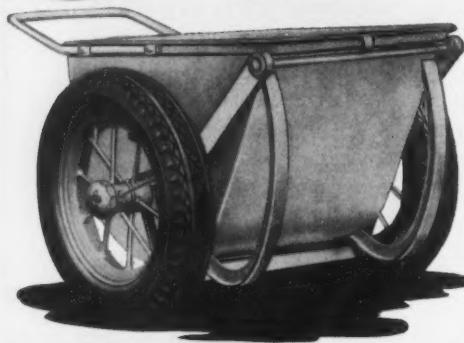
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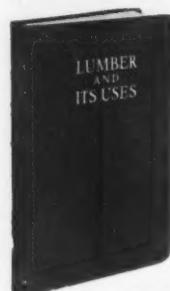
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Rice Pump & Machine Co.
1023 S. 40th St.
Milwaukee 4, Wis.

Rogers Bros. Corp.
223 Orchard St.
Albion, Pa.

Joseph T. Ryerson & Son, Inc.
P.O. Box 8000-A
Chicago 80, Ill.

Shunk Mfg. Co.
Bucyrus, Ohio

Sisalkraft Co.
205 W. Wacker Drive
Chicago 6, Ill.

Skilsw, Inc.
5049 Elston Ave.
Chicago 30, Ill.

H. A. Sloane Associates
415 Lexington Ave.
New York 17, N. Y.

T. L. Smith Co.
2833 N. 32d St.
Milwaukee 10, Wis.

Smith's Hoist & Mfg. Co.
Cassopolis 1, Mich.

Smooth Ceilings System
802 Metropolitan Life Bldg.
Minneapolis 1, Minn.

Standard Steel Works
North Kansas City, Mo.

Stemco Corp.
Cleveland 16 (Rocky River), Ohio

Sterling Machinery Corp.
405 Southwest Blvd.
Kansas City 10, Mo.

Symons Clamp & Mfg. Co.
4259 W. Diversey Ave.
Chicago 39, Ill.

Timken Roller Bearing Co.
Canton 6, Ohio

Trinity White, General Portland
Cement Co.
111 W. Monroe St.
Chicago 3, Ill.

Truscon Steel Co.
Youngstown 1, Ohio

Union Metal Manufacturing Co.
Canton 5, Ohio

United States Rubber Co.
Rockefeller Center
New York 20, N. Y.

Universal Atlas Cement Co.
Chrysler Bldg.
New York 17, N. Y.

Universal Engineering Corp.
331 8th St., N. W.
Cedar Rapids, Iowa

Universal Form Clamp Co.
1238 N. Kostner
Chicago 51, Ill.

Wellman Engineering Co.
7015 Central Ave.
Cleveland 4, Ohio

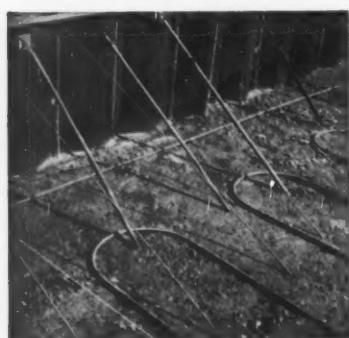
White Mfg. Co.
Elkhart, Ind.

Williams Form Engineering Corp.
Box 925, Madison Square Station
Grand Rapids 7, Mich.

Wodack Electric Tool Corp.
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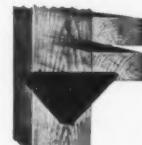
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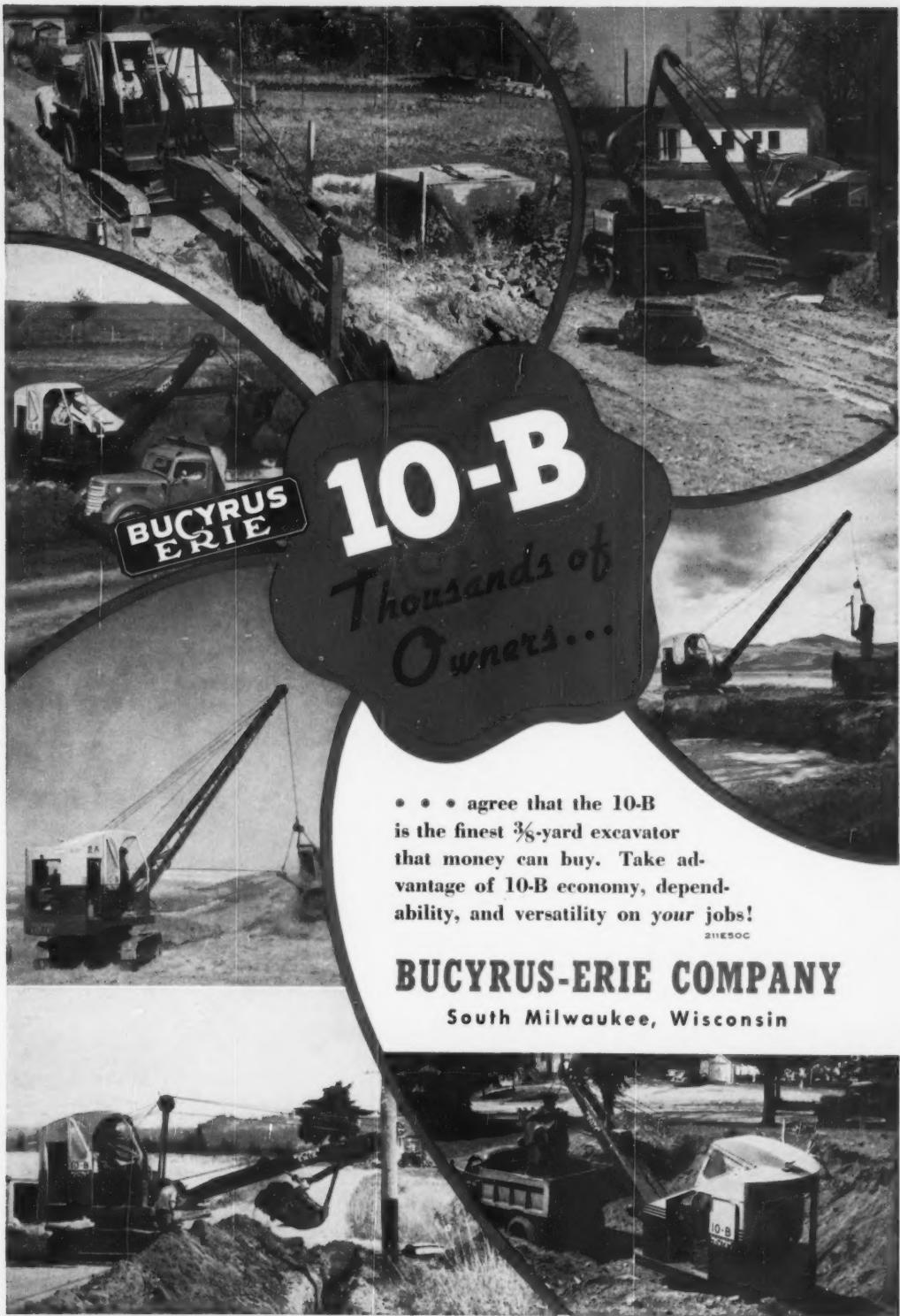
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